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ANNUAL MEETING OF THE LAKE CARRIERS' ASSOCIATION.

Detroit, Mich., Jan. 17.—As had been expected, the proposed establishment by the Lake Carriers' Association of a benefit fund for men employed aboard the ships, which was the principal question discussed at the annual meeting just closed in this city, does not meet with approval from the leaders of labor organizations. Officials of branches of the American Federation of Labor that include the sailors and dock laborers, were in Detroit during the meeting for the purpose of watching the proceedings and their opinions were reflected in the daily newspaper articles that referred to the proposed organization as "a plan of the vessel owners to thwart the attempt of the American Federation of Labor to obtain complete control of the men employed on lake vessels." A similar cry was raised throughout Europe when the Federation of Seamen was formed in England, but that organization now has about 200,000 members, and it is the intention of the lake ship owners to offer to the 9,000 men on their vessels, if a year's trial of the scheme proves successful, inducements of a far more satisfactory nature than those prevailing in the European organization. As regards the action of the Detroit meeting on the subject, it may be said briefly that the general plan worked out by the executive committee was endorsed with the understanding that the new president, Mr. A. B. Wolvin, was to appoint a large committee, of which the president and secretary were to be members, to work out the details and make the scheme operative if possible with the opening of navigation in the spring. This committee is also to make arrangements that will overcome difficulties which the association has encountered in its business affairs in the past on account of the loose methods attending re-enlistment of members each year. The association will very probably be incorporated in the way that chambers of commerce, boards of trade and other similar commercial organizations are incorporated. Members of the committee, as announced by the president just before the close of the meeting, are: F. J. Firth of Philadelphia; G. L. Douglas, W. C. Farrington, Buffalo; H. Coulby, E. S. Mills, J. A. McGean, H. A. Hawgood and J. H. Sheadle, Cleveland; A. W. Colton, Toledo; C. W. Elphicke, Chicago; David Vance, Milwaukee; Thos. Cranage, Bay City; A. A. Parker, Detroit; J. C. Gilchrist, Geo. P. McKay and Harvey D. Goulder, Cleveland; C. H. Keep, Buffalo; A. B. Wolvin, Duluth.

There is really no general organization of the men on the vessels proposed in this plan of insurance as far as it has progressed up to this time. The proposition is simply to give to the men the advantage of a fund that may be drawn upon in a moderate way weekly in case of loss of time on account of accident, and from which quite a large sum of money would be paid in event of total disability or death. On account of their hazardous calling, the men aboard the vessels can get no accident insurance from the companies regularly engaged in that business. The men are, of course, expected to contribute to the fund, but it is proposed, as soon as a proper basis of contribution can be determined, to have the ship owners contribute as much, if not more, than the men themselves, to the maintenance of the fund. Organizations of this kind are not new. The experience of the Pennsylvania Railroad Co. and other large employers of labor are being followed in the matter. For the part which they propose to take in building up such a benefit fund, the vessel owners hope to secure a more steady and reliable class of men. The fund is to be under the management and control of five trustees. The president of the association will be an ex-officio member of the board of trustees and the other four members will be chosen at the annual meeting of the Lake Carriers' Association each year. The secretary, treasurer and counsel of the association will act as secretary, treasurer and counsel, respectively, of the board of trustees. Thus far it has not been proposed to give to the men representation in the management of the fund further than in an advisory way—arranging, for instance, for a delegation of about fifteen representatives of the men to meet once or twice a year with the trustees for the purpose of presenting their views and suggesting changes. But this plan may be changed, even to the extent of giving the men representation in the board of trustees, as details of this kind are entirely in the hands of the committee.

A book of membership in the Federation of Seamen, or whatever it may be called, will be an important document in the hands of the man applying for employment, if the scheme is carried into effect. For this book \$1 will be charged as a membership fee. The holder of such a book will have preference in employment in any vacancy occurring on any ship or with any ship master or owner affiliated with the Lake Carriers' Association. In case of desertion, failure to join ship or misconduct or unfaithfulness in service, the benefits carried by this book of membership may be revoked. It is proposed for a beginning that the holder of the book of membership shall pay into the fund, in addition to the dollar, 2 cents a day, which sum is to be collected as often as once a month by the master of the vessel and forwarded as often as once a month to the treasurer of the Lake Carriers' Association. This payment of 2 cents a day will very probably never be increased and may be very materially reduced when the amount which it is thought the men should contribute can be more definitely determined. The benefits are to be graded from \$400 for death or total disablement down to \$5 for minor accidents incapacitating a man for work, but this, too, may be radically changed if it is found that more liberal benefits can be paid under the assistance that is to be rendered by the ship owners. The insurance is to be operative only while the men are actually employed on vessels of the association, and it follows also, of course, that the portion to be contributed by the men will be required of them only while they are in employment. If they quit a vessel for work ashore or for any other cause the insurance is operative immediately upon the book being surrendered by the captain, but they begin to participate in the benefits of the fund again when they

take up employment on some other vessel of the association and can rely upon preference in employment if the book record is of a right kind. According to another provision of the scheme, any holder of a benefit book may, if he chooses, elect to pay the sum of 4 cents a day or 6 cents a day, in which case the amount of death or weekly benefits payable to him in event of death or disablement would be two or three times what it would be on the 2-cent basis.

GRAIN SHOVELING AT BUFFALO.

Next to this plan of insurance for men employed on the vessels, the grain shoveling question at Buffalo was considered of most importance, and it was also taken up in executive session, on account of the great difficulties encountered in the labor troubles of a year ago, but it was soon found that the system involving the employment of a superintendent by the Lake Carriers' Association has worked so well that there was unanimous endorsement of the committee report in favor of continuing it. The report showed that \$529,218.15 was collected from vessels during the season for shoveling; that of this amount \$187,000 was paid for rent of steam shovels, and the men were paid about \$316,500. The balance was largely taken up in the salaries of Supt. T. W. Kennedy and his assistants, office rent and other expenses, but there was quite a comfortable surplus due the vessels and it was decided to make this the nucleus of a sinking fund that may possibly be required in the conduct of the business next year, as it was the sense of the meeting that the shoveling charge for next season should be reduced 5 cents per 1,000 bushels, making it \$3.30 instead of \$3.35. Of this \$3.30 per 1,000 bushels the grain shovelers will get \$2.00, the steam shovels \$1.20, and the balance of 10 cents will be devoted to the expense of conducting the business. It was a source of great satisfaction to the meeting to learn that the shovelers in their union at Buffalo had passed resolutions endorsing the system of the past season and asking that it be continued. Everything pertaining to the Buffalo work was left to the grain shoveling committee of the past year, which was reappointed, but with the understanding that Mr. T. W. Kennedy was to continue in the position of superintendent. Mr. Kennedy and his principal assistant, John J. Manion, were in Detroit during the meeting and were congratulated upon the success of the methods they have inaugurated at Buffalo. The grain shoveling committee is composed of Edward Smith, W. C. Farrington, M. M. Drake and C. A. Brunn of Buffalo, A. W. Colton of Toledo, L. C. Waldo of Detroit, A. B. Wolvin of Duluth, H. Coulby and James Corrigan of Cleveland, and D. Sullivan of Chicago. The work of attending to this Buffalo business rests mainly however, with the four Buffalo members acting as a sub-committee. The committee held a meeting before leaving Detroit and engaged Mr. Kennedy for another year.

OPENING PROCEEDINGS—ELECTION OF OFFICERS.

The members were somewhat tardy in presenting themselves at the opening session on Wednesday morning, but when they were once assembled business was transacted with considerable dispatch. The association was called to order by W. C. Farrington of Buffalo, its president. Secretary Charles H. Keep proceeded at once with the reading of the annual report of the board of managers, which is a most comprehensive review of the business of the year and will be found in detail in another column. The report, as will be seen, is devoted largely to an account of the visit of the congressional committee to the lakes during the past summer and to the appropriations expected in the river and harbor bill for the principal river and harbor improvements. The report also reviews at considerable length the efforts of the association to secure relief from difficulties of navigation in the Chicago river on account of the current due to the drainage canal. Of distinguishing interest in the report is a paragraph showing that of the 800,000 tons of vessels in the association one-half is made up of vessels owned by individuals engaged in the general carrying trade; three-eighths is made up of vessels owned by the owners or consumers of iron ore, and one-eighth of vessels carrying package freight and running in connection with land lines of transportation. In other words the railroad lines and the fleets owned by mining companies and steel companies, combined, just about equal the tonnage doing an independent carrying business and having no affiliation with other interests.

Secretary Keep also read the annual report of the treasurer, Capt. George P. McKay, which shows the financial condition of the association to be most satisfactory. In fact the association has a balance on hand, aside from a surplus in the Buffalo grain shoveling fund, of \$67.23, and would, indeed, have a respectable sum in addition had not a check for \$390 of the light-house board been returned as unpaid owing to a technicality regarding its receipt. This, too, is touched upon in the report of the board of managers and serves to enliven an otherwise prosaic document with its exquisite humor; for assuredly the government's way of doing things is frequently unconsciously droll. The sum of \$390 is to reimburse the association for three clusters of piles to support lights placed in Lake St. Clair in 1896. The association originally placed lights on the piles, but the lights were later replaced by government lights. The warrant is to reimburse the association for the cost of the piling. The check was sent to Capt. McKay, the treasurer, in due season, but the accounting officer of the treasury department called upon Capt. McKay for a copy of the by-laws of the association, defining his duties, in order to see whether he had authority to receipt for the money. It so happens that the by-laws do not expressly authorize the treasurer to receipt, though they do authorize him to collect dues and disburse funds. The accounting officer, therefore, refused to pay the warrant without a resolution from the board of managers authorizing the treas-

urer to sign a receipt. Of course it was utterly impossible to call together the board of managers, whose members live in every city along the chain of lakes, for the special purpose of collecting this warrant, and the matter was laid over until the annual meeting. As soon as Secretary Keep had finished reading the reports, Mr. M. M. Drake of Buffalo offered a resolution authorizing the treasurer to receive and receipt for moneys due the association, which was, of course, unanimously adopted, and the \$390 will now doubtless be forthcoming from Washington.

The chair then called for nominations for the presidency. There were two names mentioned for the place before the meeting—Capt. J. G. Keith and Capt. A. B. Wolvin—but instantly upon the announcement of the chair, Capt. Keith arose and said that while he appreciated the honor of the mention of his name in connection with the presidency, he was not a candidate for the office. He placed in nomination Capt. A. B. Wolvin and paid an excellent tribute to his virtues. The nomination of Capt. Wolvin was seconded by Mr. Frank J. Firth, who declared him to be faithful, untiring and intelligent, and one who had rendered navigation interests a great service. The nomination was also ably seconded by Edwin S. Mills, who said that of all men Mr. Wolvin was conscious of the grave responsibilities resting upon the association and would give careful attention to its details. Capt. Wolvin was thereupon unanimously elected president and Messrs. J. G. Keith, Frank J. Firth and Edwin S. Mills were appointed a committee to escort him to the chair.

"Gentlemen, you're very kind," said Mr. Wolvin. "I heartily accept the office and feel that I am greatly honored. I shall do everything in my power to further the interests of the Lake Carriers."

Mr. Firth then moved that a committee of seven be appointed by the chair to nominate the vice-presidents and the standing committees. Meanwhile, while the chair was deliberating upon the personnel of the committee, the following officers were re-elected simultaneously and unanimously: George P. McKay, treasurer; C. H. Keep, secretary; Harvey D. Goulder, counsel. The nominating committee was then announced as follows: J. J. H. Brown of Buffalo, F. J. Firth of Philadelphia, William Livingstone of Detroit, John Mitchell of Cleveland, C. W. Elphicke of Chicago, C. A. Eddy of Bay City, and David Vance of Milwaukee.

MR. A. B. WOLVIN, THE NEW PRESIDENT

No better selection as president of the Lake Carriers' Association than Capt. A. B. Wolvin could have been made. He is a young man with a vast experience, a combination of energy and judgment, which is exactly what the far reaching scope of the office needs. What-

ever condition may confront the Lake Carriers' Association he will be able to cope with it. He has been well seasoned in both schools of adversity and prosperity. He will appeal to the laboring element in that he believes in a fair wage for a fair day's work. He possesses the quality, too, of fighting imposition wherever he sees it. Capt. Wolvin started sailing when he was twelve years old as cabin boy on the Dean Richmond, of which his father was captain. His first boat was the steamer Anne Smith, which he sailed in 1879, and he also commanded the Swain, the Raleigh and City of Rome. He quit sailing in 1882 when his parents died, but returned to the lakes in 1889 as vessel agent with the late Capt. F. N. La Salle of Duluth, the firm being known as La Salle & Wol-

vin. He is the manager of the American Steel & Wire Co.'s fleet of vessels, which include the big 500-footers John W. Gates, J. J. Hill, I. L. Elwood and William Edenborn. He is also president of the Superior Ship Building Co., local manager of the Great Lakes Towing Co., agent for the Western Transit Co. and is associated with J. J. Hill of the Great Northern in the construction of the two great steamships now building at New London, Conn.

As the association was about to adjourn for luncheon, Mr. Edwin S. Mills called attention to the fact that no body of men had been the recipients of such munificent legislation as had the lake carriers; that under the guidance of the committee of rivers and harbors of the house of representatives and its masterful chairman, Hon. Theodore E. Burton, a river and harbor bill carrying heavy appropriations for the great lakes had just passed the house, and he therefore moved that a telegram of congratulation be dispatched to Washington. It was unanimously carried.

As soon as the association convened for its afternoon session, the nominating committee reported the following lists of vice-presidents, board of managers and standing committees, which were unanimously adopted:

Vice-presidents: J. G. Keith, Chicago; J. C. Gilchrist, Cleveland; William Livingstone, Detroit; G. L. Douglas, Buffalo; D. T. Helm, Duluth; Thomas Cranage, Bay City; F. L. Vance, Milwaukee; A. W. Colton, Toledo; M. J. Cummings, Oswego; J. H. Sheadle, Cleveland; F. J. Firth, Philadelphia; F. W. Gilchrist, Alpena; W. H. Rogers, Tonawanda; L. M. Bowers, Cleveland; E. S. Mills, Cleveland.

Board of Managers: E. Gaskin, Peter P. Miller, E. T. Evans, G. L. Douglas, J. J. H. Brown, John Kelderhouse, W. H. Gratwick, Jr., M. M. Drake, Edward Smith, W. C. Farrington, C. H. Donaldson, C. A. Brunn, G. W. Maytham and L. H. Van Allen of Buffalo; M. A. Bradley, James Corrigan, H. M. Hanna, George P. McKay, H. G. Dalton, Harvey H. Brown, John W. Moore, John Corrigan, William Gerlach, Henry A. Hawgood, W. C. Richardson, J. C. Gilchrist, W. D. Rees, John Mitchell, R. R. Rhodes, J. E. Upson, Caleb E. Gowan, L. M. Bowers, W. H. Becker, W. A. Hawgood, W. H. Mack, C. E. Benham, H. Coulby, J. H. Sheadle, W. G. Mather, E. S. Mills, J. A. McGean, T. F.

Newman, W. W. Brown, Cleveland; James W. Millen, William Livingstone, David Carter, D. C. Whitney, W. A. Livingstone, A. A. Parker, L. C. Waldo, Alexander McVittie, J. W. Westcott and Thomas Adams of Detroit; Jesse Spaulding, J. S. Dunham, John G. Keith, Joseph Austra, C. W. Elphicke, D. Sullivan, Wiley M. Eagan, J. J. Rardon, James H. Calbick and George J. Harris of Chicago; W. S. Brainard, A. W. Colton and L. S. Sullivan of Toledo; Charles A. Eddy, O. W. Blodgett, B. Boutell, Thomas Cranage, Howard L. Shaw and J. W. McGraw of West Bay City; J. T. Rose, D. T. Helm and A. B. Wolvin of Duluth; David Vance, H. J. Pauly, W. H. Wolf, W. H. Meyer, F. L. Vance, Albert Gibbs and W. E. Fitzgerald of Milwaukee; James McBrier of Erie; F. W. Gilchrist of Alpena; F. J. Firth of Philadelphia, C. T. Morley of Marine City, R. E. Schuck of Sandusky, Edward Mehl of Erie.

Executive committee: James Corrigan, H. A. Hawgood, M. A. Bradley, L. M. Bowers, W. C. Richardson, J. C. Gilchrist, R. R. Rhodes, H. Coulby, J. H. Sheadle, John Mitchell, Edwin S. Mills, John W. Moore, D. R. Hanna, William Gerlach and Harvey H. Brown of Cleveland; J. W. Westcott, L. C. Waldo and William Livingstone of Detroit; M. M. Drake, W. C. Farrington and J. J. H. Brown of Buffalo; W. H. Meyer and David Vance of Milwaukee; J. S. Dunham, J. A. Calbick and C. W. Elphicke of Chicago; and D. T. Helm of Duluth.

Committee on aid to navigation: George P. McKay, W. H. Becker, John A. McGean, W. A. Hawgood, Edward Morton and C. E. Benham of Cleveland; J. G. Keith and William M. Eagan of Chicago; W. A. Livingstone of Detroit; A. W. Colton of Toledo; Howard L. Shaw of West Bay City; M. M. Drake of Buffalo; W. W. Smith of Sault Ste. Marie; C. T. Morley of Marine City; and W. E. Fitzgerald of Milwaukee.

Committee on legislation: G. L. Douglas, E. T. Evans, P. P. Miller, M. M. Drake, C. A. Brunn, L. H. Van Allen, W. C. Farrington, G. W. Maytham, C. H. Donaldson, J. J. McWilliams and Edward Smith of Buffalo; L. C. Hanna, John Mitchell and James Corrigan of Cleveland; William Livingstone and B. W. Parker of Detroit; C. A. Eddy of West Bay City; Dennis Sullivan and J. G. Keith of Chicago; and F. L. Vance of Milwaukee.

As soon as the lists of the nominating committee were read and approved; the following committees to draft memorial resolutions were appointed: On the death of Capt. Thomas Wilson—J. H. Sheadle of Cleveland, J. G. Keith of Chicago, and F. J. Firth of Philadelphia. On the death of D. M. Whitney—William Livingstone of Detroit, J. J. H. Brown of Buffalo, and Thomas Cranage of Bay City. On the death of F. N. LaSalle—Capt. John Mitchell of Cleveland, C. W. Elphicke of Chicago, and David Vance of Milwaukee. The resolutions, which were read respectively by the chairman of each committee, follow:

IN MEMORY OF THOMAS WILSON.

"That whereas, since our last annual gathering one of the kindest spirits, one of the gentlest souls of all our number, has made his haven, it is fitting and proper that we lay aside for a brief moment all thought of the cares which call us together and record here some measure of our appreciation of the late Thomas Wilson, an ex-president, an efficient member of the association, the constant and conscientious friend to each of us. To mention his virtues, his kindly acts, his benevolent disposition, his catholic tolerance and charity, would only be to recount what he daily performed consistently and without ostentation throughout life. Tenacious in his own belief, which he exemplified in conduct, he was ever ready to accord to others the full measure of their own conscience. To the sorrowful he gave ever a soft and comforting word; to the needy, a willing and substantial relief; to the wavering, a kind and encouraging word; to the fallen, a ready and sustaining hand. He moved among men, a manly, God-fearing, God-serving man, and while with reverential regard he viewed the historic ground of the Christ whose spirit dominated his being and marked the standard of his endeavor, Capt. Wilson, a cheerful comrade to each of us, a true friend, a true husband, a true father, a true man, returned to his Maker.

"Resolved therefore, that we as members of the Lake Carriers' Association, as friends, as men, here acknowledge our loss by his death and in suitable form tender to the widow and family of Capt. Wilson this expression with our kindest sympathy in their great loss, in which we in the fullest measure share."

IN MEMORY OF DAVID WHITNEY, JR.

"David Whitney, Jr., who died Nov. 28, 1900, attributed no little measure of his success as a fortune builder to the productive resources of the lake marine. He was identified closely, for the greater part of his career, with the carrying interests of the lakes. As a carrier and owner he saw the fleet develop from a few sailing vessels of small capacity to the monster fleet of steel steamers of great capacity which now plies the lakes. Mr. Whitney was a strict disciplinarian. He did business for himself by fixed and unalterable method and he required like service from others whom he employed. The necessity for exercising unrelenting vigilance over details was impressed upon him as a lesson that every sailor and seaman must learn at the beginning of his career. He was a just man, a good citizen of Detroit, and one of the most helpful men of this association. He died in the full vigor of ripened manhood, having completed the allotted span of life, three score years and ten. He built up his splendid fortune by wise and cautious use of his opportunities, inflexible adherence to the golden rule, and uncompromising adhesion to truth and candor in all his undertakings. To his family we extend our heartfelt condolences, for while the loss of this association is great, the loss to them is grievous in that it takes from the home an indulgent father and devoted husband."

IN MEMORY OF CAPT. FRED N. LA SALLE.

"Whereas, since our last annual meeting death has claimed one of our valued members, Capt. Fred N. La Salle,

"Resolved, that Capt. La Salle was a sturdy representative of the type of men who have made the lake traffic what it is today with its possibilities and promise of future growth. Early thrown upon his own resources he embraced the life of a sailor. With great strength and activity of mind and body he rapidly advanced in his profession, winning everywhere the esteem and admiration of those with whom he came in contact. As a master of large steamships he was competent, energetic and successful. Later as vessel owner and manager and as a vessel and insurance agent at Duluth, he was successful and progressive and stood

high as a business man; and enjoyed the warm friendship of an immensely large circle.

"Resolved, that we mourn the loss of so true a man, so good a citizen and so valued a member and business associate."

A TRIBUTE TO JOHN GORDON.

The following memorial was also prepared by the association:

"John Gordon, whose sudden death in Buffalo occurred last week, though not a member of this organization at the time of his death, had spent a life time in the transportation business on the lakes and no man was better or more widely known to the members of this organization. As manager of important lake interests he was always ready to join in movements for the general welfare and was a manager of this association and one of the active working members of the legislative committee for many years. His sudden death was a shock to his many friends in this organization who valued his friendship, and they desire in this memorial to express their profound sorrow at his death and to extend to the family their sincere sympathy. The secretary is directed to cause a copy of this memorial to be sent to Mr. Gordon's family at Buffalo."

Upon motion of Mr. M. A. Bradley the following resolution was also adopted:

"This association places on record the profound sympathy of its members with our esteemed friend and valued fellow member, James Corrigan, in the affliction and sorrow he has been called upon to bear since our last annual meeting."

In a little speech full of feeling and most exquisitely phrased, Mr. William Livingstone thanked the retiring president, Mr. W. C. Farrington, for his unremitting services to the association during the year. He asked that the sense of what he intended to convey be incorporated into a motion and carried in honor of Mr. Farrington. Every member of the association knew that what Mr. Livingstone said was true, for Mr. Farrington has been most active in promoting its welfare; and accordingly the association did him the honor of carrying the motion by a rising vote.

"I want to thank you heartily for the sentiment expressed," said Mr. Farrington in response, "but really the credit is due to the men who helped me from start to finish."

Communications were received from the lodges of the Ship Masters' Association at Milwaukee and Cleveland asking that there be no disturbance of the rules now governing the navigation of St. Mary's river, which have practically reduced the navigation of that stream to a science, and recommending that the same rules be applied to parts of the St. Clair and Detroit rivers. However, the two lodges differed as to what points in these rivers the rules should apply and the communications were referred to the committee on aids to navigation. Capt. George P. McKay thought that this question should be considered by a large special committee, of which he should not be a member, as he considered the subject of vital importance. The association agreed with him regarding the importance of the matter, but considered the standing committee on aids to navigation, of which he is chairman, as sufficient to cope with the question, and so referred it to that committee. The association then went into executive session to consider the proposed federation of labor, which is dealt with in opening paragraphs of this account of the proceedings.

SECOND DAY'S SESSIONS.

SETTLEMENT OF TONNAGE DUES—VARIOUS RESOLUTIONS—NAVIGATION RULES FOR THE RIVERS, ETC.

The open session of Thursday morning was devoted largely to the reception and disposal of communications. One of the lodges of the Ship Masters' Association sent in a communication claiming that it would be better to have the light-ship which the Canadian government is building for Pelee passage, stationed on Lake Erie, Southeast shoal, than on the middle ground. This communication was referred to the committee on aids to navigation. From another branch of the Ship Masters came a letter protesting against the ruling of the Chicago collector of customs requiring vessels to hand in statistics of cargoes before getting clearance papers. The effect of this rule is to compel the master of the vessel to get an order from the broker, vessel agent or shipper regarding the cargo before he can get his clearance papers. The Ship Masters protest that it puts them to great inconvenience without accomplishing the result desired, as the statistics which they file are frequently inaccurate. This communication was referred to the executive committee. A communication, also from the Ship Masters, to raise 20 ft. the red light on Middle island, Lake Erie, which is now obscured by trees, was referred to the committee on aids to navigation.

The board of trade and common council of Tonawanda and the Tonawanda Lumbermen's Association petitioned for target and range lights on Niagara river, through Germania park and Strawberry island, so that the river may be navigated at night. The petitioners represented that Tonawanda is the second largest lumber port in the world, and is yet unapproachable at night. Boats that get to Buffalo at dusk have to lay up there all night, as owing to lack of a properly marked channel they cannot reach Tonawanda. The petitions also requested masters of vessels to assist the government engineer to locate the shoals in the river. The present river and harbor bill bears an appropriation of \$250,000 for deepening the river. The questions were referred to the committee on aids to navigation.

The following letter was received from Mr. Joseph Austrain, president and general manager of the Lake Michigan & Lake Superior Transportation Co., Chicago, and was referred to the committee on aids to navigation:

"At present there is quite a stiff toll collected on the tonnage of vessels and on the cargo which they deliver on Lake Linden to the Calumet & Hecla Mining Co., which improved the channel years ago and instigated a toll tariff on all business going in there. The business in Lake Linden is one of great magnitude, as the stamp mills of the Calumet & Hecla, the Osceola and Quincy mines are located there, and other mills, such as the Kearsarge, are under contemplation. I would respectfully suggest that the Lake Carriers' Association interest itself in getting the government to purchase this channel from the Calumet & Hecla Mining Co. and make it a free passage the same as the government did with the Portage Lake canals, of which this is a very important branch."

A request from one of the flax seed shipping concerns that the regular grain bill of lading answer also for flax seed, was referred to the executive committee.

The question of the proposed suspended cable transfer bridge across Duluth harbor entrance was referred to the executive committee with the recommendation that the Lake Carriers withdraw their objection to that type of bridge.

The Ship Masters also asked that the association make an effort to have the government attach smallpox wards to the marine hospitals. The request was referred to the executive committee.

The closing session of the convention, held Thursday afternoon, was opened with an address by Capt. Thomas Donnelly of Kingston, Ont., chief inspector of Inland Lloyds, who urged greater uniformity of the navigation laws of the lakes. In his preface he said that he had come only to suggest and not in any sense to demand.

"I want to thank you," Capt. Donnelly said, "for the privilege of permitting me to speak. The Lake Carriers' Association is a gathering of which Canadians have heard much but have seen little. Your interests on the lakes are so vast and ours so small that we have seemed to have little in common. But I would like to make a few suggestions which may eventually result in benefit. The American and Canadian navigation rules should be more uniform, and while I might not be permitted to speak to you as an association upon this subject I might speak to you as vessel owners. There are many reasons why as vessel owners and underwriters you should take this matter up. Whatever varieties of language there may be ashore there should only be one language afloat. The United States has done its share towards obtaining one language by promoting the maritime conference which met in Washington in 1889. Canada has adopted the international rules and so observes it on the lakes. You have adopted the White law. I wish, in a way, that we too had adopted the White law, but what now is the result? In a fog an American vessel blows the three-whistle signal at intervals of one minute; the Canadians in their waters blow the one-whistle signal. When an American ship gets into Canadian waters the British law requires that in case of accident she shall be regarded as a British ship and subject to the same rules that British ships are. Wouldn't it be well, in order to minimize accidents and responsibilities, to have a uniform fog signal? Then there is confliction as to the number of lights which shall be carried at the masthead when a steamer has one or more tows. Wouldn't it be well to equalize this? I merely speak of these two because they occur to me as the most important. I suggest that the Lake Carriers petition our government to reach an agreement regarding uniform rules for the great lakes."

Capt. Donnelly was given a vote of thanks for the interest which he manifested in lake navigation, and his suggestions were referred to the committee on legislation with the understanding that he should be called in for consultation when the matter of uniformity in signals comes up for consideration.

One of the most important talks was given by Mr. R. B. Wilcox, assistant civil engineer of the city of Chicago, in charge of engineering work along the Chicago river. Mr. Wilcox attended the meeting to explain what Chicago is doing to promote the safe navigation of the river.

"There was at first considerable difficulty in navigating the Chicago river," explained Mr. Wilcox, "but we are rapidly surmounting it and in a little while I am sure the trouble will no longer obtain. About three months ago the sanitary district decided to widen the river 200 ft. from Twelfth street south and this work will be pushed to completion with the utmost expedition. It is our purpose to remove all of the center pier bridges. Two days ago bids were opened for the removal of eight of them, and to replace them with bascule bridges, which will give a clear passage of 140 ft. at each draw. The tunnels, too, will be lowered as soon as possible. The city now has a case in court against the street railway companies, which are practically the sole users of the tunnels, with every prospect of a successful termination. Regarding the subject of damages along the river inflicted by vessels the city desires to meet the lake carriers fairly. At present by the time the bill reaches the city department for damages the vessel men have practically forgotten about the accident. I would suggest that the Lake Carriers establish an agent along the river to look after accidents. He can put himself instantly in telephonic communication with me and we can go together to the scene of the accident. Doubtless we can fix upon the responsibility and determine the amount of the damage without recourse to the courts."

The dues for the year were fixed at 3 cents per ton on all vessels of 1,400 tons and under, and 4 cents per ton on all vessels of greater register. Mr. Henry A. Hawgood suggested that it be 4 cents straight, but Mr. H. Coulby said that last years the dues were 3½ and 2½ cents according to tonnage and that a 4-cent due would work a hardship upon the small shippers.

Mr. Harvey D. Goulder announced to the association the death of Mr. John W. Moore and paid a graceful tribute to his memory. The following memorial, prepared by Mr. Goulder, was adopted:

"Capt. John W. Moore, one of the original members, passed away during the session of the association. Capt. Moore began life under every disadvantage, and by his ability, courage and industry advanced to the position of master of a vessel on the lakes in 1861. He was earnest, capable and thrifty, and by these qualities amassed a comfortable fortune. Of kindly, genial disposition and friendly instincts, he accumulated, too, a host of friends who appreciated his work as a man and friend."

"Therefore, Resolved that the members of this association place on record the token of their esteem and respect for the memory of Capt. John W. Moore."

The committee on aids to navigation, which had been in session during the afternoon, reported the following amendments to navigation rules, which were adopted without discussion:

St. Mary's river—Change rule 1 so that the speed limit shall commence at Everen's point for vessels ascending the river and end at Everen's point descending the river. No steamer navigating the St. Mary's river, either ascending or descending, shall pass any other steamer or steamers moving either in the same or opposite direction in such a position that more than two steamers shall be abreast of each other when passing. In case three steamers are liable to pass in such a position that more than two steamers will be abreast in passing, the overtaking steamer

shall slow down sufficiently at quarter-of-a-mile distance to avoid passing in such position.

RULES FOR NAVIGATION OF THE RIVERS.

A motion was carried that the rules governing the navigation of the Detroit and St. Clair rivers remain as they now exist, but that the secretary of the treasury be requested to place a revenue cutter and establish a station in the Detroit and St. Clair rivers for the purpose of enforcing the existing laws. Mr. Frank J. Firth offered the following resolution:

"Whereas, in the first session of the fifty-sixth congress Hon. Theodore E. Burton, from the committee on rivers and harbors, reported to the house of representatives a bill, known as house bill No. 11,876, authorizing the regulating and construction and operation of a water power canal at Sault Ste. Marie, Mich., and

"Whereas, said house bill when reported by Mr. Burton was accompanied with a report, No. 1,759, from the committee on rivers and harbors, which report states fully the importance of the proposed bill and the fact that there had been numerous hearings before the committee on rivers and harbors at which representatives of the Michigan-Lake Superior Power Co. and of this, the Lake Carriers' Association, and other interests had appeared and been heard, and

"Whereas, said committee reported that it was desirable that the rights of all parties be clearly defined and that it is alike for the benefit of navigation and of the power company, as well as of all other parties interested, that a statute such as house bill No. 11,876 be passed, containing provisions and regulations controlling the whole subject, a copy of said bill No. 11,876 and of said report No. 1,759, being hereto attached, marked exhibits A and B, respectively, and made a part of this resolution

"Now be it resolved, that this association heartily concurs in the report of the rivers and harbors committee, No. 1,759, and earnestly urges, for the reason stated in that report, that said house bill No. 11,876 be enacted into a statute by the senate and house of representatives of the United States; that in the judgment of this association the operation of said canal, unless the rights of the Michigan-Lake Superior Power Co. are clearly defined and said canal is operated under the supervision of the United States authorities, as is provided in said bill, will seriously menace and interfere with the paramount interests of navigation and also with the operation of the ship-canal at the Sault, which has already cost the government of the United States millions of dollars.

"Be it further resolved that this association respectfully urges upon the senate and house of representatives of the United States that the said bill be without delay enacted into a law."

Mr. Firth explained that he was not the author of the resolution but that he had seen all parties concerned, who had approved it, and he therefore submitted it for adoption. Mr. Goulder also explained it briefly and it was adopted without further discussion.

Chaplain Malcolm McNeil, Sailors' Home Mission, with headquarters at No. 149 Weed street, Chicago, who is endeavoring to raise money to purchase a tract of land 250 acres in extent near Chicago upon which to found a home for aged seamen, addressed the association upon his enterprise. He says that he wants to found an institution similar to Sailors' Snug Harbor on Staten island, and is desirous of obtaining \$31,000 to purchase the site. He exhibited a paper showing that Senator Hanna had started the subscription list with a pledge of \$1,000. He wanted the association to give its endorsement to the undertaking, but the association took no action upon the subject.

The association then adjourned for one year.

VESSEL MEN AND OTHERS IN ATTENDANCE.

Cleveland—Robert R. Rhodes, John Mitchell, Alfred Mitchell, John F. Wedow, James C. Wallace, H. D. Goulder, E. M. Richardson, H. Coulby, A. R. Rumsey, John Corrigan, Capt. M. Mulholland, J. H. Sheadle, E. C. Collins, Wm. Gerlach, H. A. Hawgood, Geo. P. McKay, W. R. Bartlett, M. A. Bradley, W. H. McGean, C. L. Hutchinson, R. J. Mullen, W. J. Boylan, John A. Donaldson, W. A. Collier, Lee Brogan, Martin Connors, Martin Mullen, F. B. Smith, Robert Logan, E. S. Mills, J. E. Upson, James F. Leitch, J. A. McGean, W. H. Becker, Mark Hanlon, Capt. Edward Morton, A. W. Thompson, W. W. Brown, F. S. Masten, J. A. Gilchrist, Herman Kelley, J. H. Hahn, Wm. Farasey, T. F. Newman, O. C. Pinney, I. A. Gilmore, W. C. Richardson, W. E. Chapman, A. C. Diericks, Capt. Thos. Jones, C. E. Benham, Geo. Randerson, E. T. Laundon, Eugene M. Carlton, J. C. Gilchrist, A. J. Gilchrist, Charles Gilchrist, John Warner, Thos. R. Teare.

Buffalo—W. C. Farrington, Edward Smith, J. J. H. Brown, C. H. Keep, John Green, M. M. Drake, Thos. W. Kennedy, J. J. Manion, James Kennedy, Junius S. Smith, C. A. Brunn, L. H. Van Allen, C. Lee Abel, D. H. Wilcox, J. B. Conard, Edward Gaskin, A. J. Boland, Martin Carey, Capt. John B. Hall, Harvey L. Brown, F. A. Meyer, R. E. Rispin, L. P. Goodale, A. C. Lanctot, G. W. Maytham, Wm. Barr.

Chicago—J. S. Gadsden, Edward N. Hurley of Standard Pneumatic Tool Co., W. L. Brown, J. G. Keith, James A. Calbick, C. H. Wallace, Chas. H. Egan, D. Sullivan, J. J. Rardon, C. W. Elphicke, C. E. Kremer, H. B. Earhart, J. C. Evans, Miles Barry, C. H. Sinclair, E. P. Lenihan, Thomas Prindeville, R. B. Wilcox, O. G. Orr, H. H. Peters, E. J. Fleming, H. A. Foss, A. E. Schuyler, J. R. Sinclair, Wm. Woods, Walter Hamilton.

Detroit—J. W. Millen, A. A. Parker, David Carter, L. C. Waldo, John C. Shaw, J. W. Westcott, Walter E. Campbell, P. J. Ralph, Wm. Livingstone, W. A. Livingstone, Capt. Frank Danger, Wm. M. Daly, A. G. Mattsson, Richard Cusen, Charles B. Calder, Henry Wineman, Jr., John H. Walsh, E. J. Burke, James McClerety, M. W. Humphrey.

From various other points—Frank J. Firth, Philadelphia; G. A. Tomlinson, Duluth; D. T. Helm, Duluth; C. T. Morley, Marine City; Selwyn Eddy, Bay City; J. W. Kellogg, General Electric Co., New York; A. B. Wolvin, Duluth; James E. Davidson, West Bay City; W. E. Fitzgerald, Milwaukee; F. W. Wheeler, West Bay City; John Mullen, Amherstburg; P. J. Griffin, Oswego; C. A. Eddy, Bay City; Philip Scheid, Duluth; W. J. Symons, Fairport; Henry Leisk, Milwaukee; Thomas A. Cheney, Ashtabula; E. J. Chamberlin, Ottawa; O. W. Blodgett, Bay City; J. J. Lynn, Port Huron; Thomas Cranage, Bay City; A. W. Colton, Toledo; Capt. A. B. Davis, Milwaukee; David Vance, Milwaukee; H. A. Tuttle, Minneapolis; T. Donnelly, Kingston; H. L. Holden, Two Harbors; W. H. Meyer, Milwaukee; Thos. W. Sheriffs, Milwaukee; J. H.

Schlosser, Milwaukee; Capt. W. W. Smith, Sault Ste. Marie; Capt. Alex. Forbes, Port Huron; F. W. Gilchrist, Alpena; Geo. Craig, Toledo; T. J. Southard, Toledo; John T. Solon, Toledo; Capt. Frank Hackett, Amherstburg; D. E. Lynn, Geo. F. Lynn, Port Huron; W. J. Lynn, Mt. Clemens; Ben Boutell, W. E. Pierce, W. A. Sharp, W. H. McCormick, T. F. Madden, Geo. D. Jackson, Bay City; Henry McMorran, A. B. Carpenter, Harvey Kendall, Colin McLachlan, John E. Mills, J. H. Fitzgerald, Wm. Hutchinson, Frank Danger, Port Huron; Alex. Sinclair, Capt. C. H. Weeks, Duluth; Wm. McGregor, Milwaukee; Wm. Dulac, Mt. Clemens; Chas. D. Thompson, Port Huron; Wm. H. Duff, Amherstburg; Simon Langell, Richard O'Connor, Capt. E. B. McQueen, Capt. W. P. McGregor, St. Clair; J. T. Garry, John Kelly, Capt. Daniel Ryan, Capt. Madigan, Saginaw; M. Sicken, C. E. Norton, John Jenkinson, Alex. Anderson, H. Lawrence, John Balfour, Capt. W. H. Scott, Thos. Lester, Henry Lester, Marine City; Thos. Dunford, Port Huron; Capt. Samuel Neff, Milwaukee; Harry Richardson, Alpena; James Harrow, Algonac; Howard L. Shaw, Bay City.

ANNUAL REPORT OF THE MANAGERS.

A GENERAL SUMMARY OF AFFAIRS OF THE ASSOCIATION DURING THE PAST YEAR—MEMBERSHIP, FINANCES, ETC.

OFFICE OF THE LAKE CARRIERS' ASSOCIATION }
BUFFALO, N. Y., JAN. 15, 1901. }

To the Members of the Lake Carriers' Association:

The board of managers of the association submits herewith its annual report of the proceedings and operations of the association during the past year.

MEMBERSHIP AND TONNAGE.

The tonnage enrolled in the association during the past year was 842,248 tons, an increase of more than 80,000 tons over the tonnage of the preceding year, which itself showed an increase of 75,000 tons over 1898. The tonnage of the association during the past two years has therefore increased more than 150,000 tons. The following shows the comparative tonnage of the association for a series of years beginning 1894:

| | | | |
|------|-------|---------|-------|
| 1894 | | 590,000 | tons. |
| 1895 | | 618,000 | " |
| 1896 | | 722,863 | " |
| 1897 | | 687,237 | " |
| 1898 | | 686,014 | " |
| 1899 | | 760,866 | " |
| 1900 | | 842,248 | " |

With two exceptions the tonnage of the association now includes all the fleets of importance on the great lakes.

In analyzing the tonnage figures for 1900, we find that of the total tonnage of 842,248 tons, 577,060 tons were made up of vessels of over 1,400 net registered tonnage, paying the higher rate of dues; 265,188 tons was made up of vessels of less than 1,400 tons, paying the lower rate of dues. The fleets composed of vessels all of which were below 1,400 tons only made up 87,999 tons. Nearly 90 per cent. therefore of the tonnage of the association is made up of fleets in which at least part of the vessels are of over 1,400 tons, paying the higher rate of dues.

In view of the somewhat rapid changes that have taken place in the ownership of lake vessels in recent years, it will be interesting to know that of the 800,000 tons in the association one-half is made up of vessels owned by individuals engaged in general carrying trade; three-eighths is made up of vessels owned by the owners or consumers of iron ore, and one-eighth of vessels carrying package freight and running in connection with land lines of transportation. In other words, the railroad lines and the fleets owned by mining companies and steel companies combined, just about equal the tonnage doing an independent carrying business and having no affiliation with other interests.

The large amount of tonnage now building in the ship yards for present members of the association, promises a considerable increase of tonnage for another season.

FINANCES OF THE ASSOCIATION.

The report of the treasurer, which will be submitted to you, showing the receipts and disbursements during the past twelve months, is the most satisfactory document of this kind which the association has had to consider for several years. The amount of dues collected to date is \$25,933.17. There are still about \$275.00 of dues uncollected, of which all ought to be collectible. The amount already collected shows an increase over last season of about \$4,400. The treasurer's report last year reported unpaid liabilities of about \$400, with no cash on hand. Additional liabilities were afterwards incurred connected with last year's business, principally for the salary of the grain inspector at Buffalo, which brought up last year's deficit to something over \$2,000. The receipts this year have cleared up this deficit and met the running expenses of the association to date.

You will notice that the treasurer's report contains no items relating to the grain shoveling at Buffalo. This shoveling has been done during the past year by the association under the charge of a salaried superintendent. A special committee had charge of this work, and will submit a report of their operations during the past year, including a financial statement.

During the past year the United States treasury sent to the treasurer of the association a warrant for the sum of \$390.00 to reimburse the Lake Carriers' Association for three clusters of piles placed in Lake St. Clair in the year 1896. On these clusters of piles the Lake Carriers' Association originally placed some lights, but the lights were afterwards replaced by government lights, and the warrant is to reimburse the association for the cost of the piling. The experience of the association with this warrant has been somewhat amusing. The accounting officer of the treasury department called upon Capt. McKay, treasurer of the Association, for a copy of the by-laws of the association defining his duties, in order to see whether he had authority to receipt for this money. The by-laws provide that the treasurer shall collect the dues of the association and disburse its funds, but do not expressly give the treasurer authority to receipt. The accounting officer therefore refused payment of the amount of the warrant on Capt. McKay's receipt without a resolution of

the board of managers of the association authorizing him to receipt for the money. As the board of managers of the association is a numerous body, residing all over the lakes, and does not hold meetings but transacts all its business through the standing committees, the expense to the association of holding a meeting of the board of managers, attended by a quorum, would fully equal the amount of the warrant. We therefore still hold the warrant unpaid, and a solution of the difficulty will be sought at the present annual meeting. The treasurer of the association humorously suggests that the only way to get this money will be to have an act of congress passed to the effect that he is the treasurer of the Lake Carriers' Association.

OPERATIONS OF THE SHIPPING OFFICES.

Shipping offices have been maintained during the past year by the association at Cleveland, Chicago, Toledo, Buffalo, Ashtabula, Milwaukee and South Chicago. The number of men shipped through the various offices during the past season, with comparison with former years, was as follows: 1900, 14,987 men; 1899, 16,681 men; 1898, 16,508 men; 1897, 13,139 men; 1896, 11,838 men. The number of men shipped through each office, as compared with 1899, was as follows:

| | 1900 | 1899 |
|--------------------|-----------|-----------|
| Cleveland | 3,354 men | 3,886 men |
| Chicago | 2,515 " | 3,195 " |
| South Chicago..... | 1,828 " | 1,981 " |
| Toledo | 1,138 " | 1,298 " |
| Buffalo | 2,110 " | 2,117 " |
| Ashtabula | 2,289 " | 2,400 " |
| Milwaukee | 1,773 " | 1,804 " |

The number of men shipped through the Buffalo office is practically the same as in 1899, and there is some falling off at the other offices.

The total expense of maintaining the shipping offices during the past season, as shown by the treasurer's report, was \$11,322.67, about 40 per cent. of the total expenses of the association. The cost to the association during the past year for each man put on board of vessels by the shipping offices, was about 76 cents, as compared with 64 cents in 1899.

GRAIN SHOVELING AT BUFFALO.

At the last annual meeting of the association the matter of grain shoveling was placed in charge of a special committee, consisting of Messrs. L. C. Waldo, Edward Smith, M. M. Drake, J. J. H. Brown, A. B. Wolvin, A. W. Colton, James Corrigan, L. S. Sullivan, W. E. Fitzgerald, Thomas Cranage and Howard L. Shaw. After considering the bids submitted to them for doing the work by contract, the committee decided to reject all bids and have the Lake Carriers' Association do the work itself, employing a superintendent under salary to take charge of the same under the guidance and supervision of the special committee. Thomas W. Kennedy of Buffalo was subsequently appointed superintendent, and the work has been carried on in this way during the season of 1900. The duty of supervision has fallen largely on Mr. Edward Smith. The association cannot appreciate too highly the work which this gentleman has done in behalf of the grain carrying interests. The grain shoveling committee will submit, for your consideration at this meeting, a complete report showing how the work has been performed, together with a financial statement. The question as to what shall be done during the coming year is one of the most important to come before the meeting.

CHICAGO RIVER AND DRAINAGE CANAL.

The partial completion and premature opening of the Chicago drainage canal, reversing the natural flow of the Chicago river and creating a swift, irregular and dangerous current therein, has caused much anxiety and loss to vessel owners. From the opening of navigation in 1900 vessels were delayed and damaged in collision with other vessels, bridges and docks. Tug bills showed enormous increase and important losses in earnings followed inability to load vessels to their normal capacity owing to the dangerous currents and shallow water, particularly over the river tunnels. Much of this trouble was due to the fact that the board of trustees of the Sanitary District, in their anxiety to improve sanitary conditions, opened the canal before their work was completed, no doubt clearly recognizing the risks and liabilities to navigation interests thus incurred.

At a meeting of the legislative committee, held in Buffalo May 8, 1900, a special committee was appointed, with Mr. Frank J. Firth of Philadelphia as chairman, to which was referred, with power to act, the entire question of protection of navigation interests against loss or damage from the opening and operation of the Chicago drainage canal, by appeal to the secretary of war, congress or otherwise. This action was taken in consequence of a permit to operate the drainage canal and cause the water of the Chicago river to flow into the same, issued by the secretary of war on May 8, 1899, the secretary, however, making it a condition of such opening that the Sanitary District should assume all responsibility for damages to navigation interests by reason of the introduction of a current into the Chicago river. The special committee appointed at the Buffalo meeting consisted of Messrs. Frank J. Firth, W. C. Farrington, Harvey D. Goulder, M. M. Drake, George P. McKay and C. H. Keep. A meeting was arranged with the sanitary trustees in Chicago on May 9, and after full and amicable discussion, a notice was served upon the board of trustees of the Sanitary District that on the 15th day of May the Lake Carriers' Association would apply, in behalf of the navigation interests, to the secretary of war in Washington, for some remedy of the conditions at Chicago, and would be glad to have representatives of the sanitary board attend the hearing, to the end that the best arrangement of the matter might be had. On the 16th day of May, 1900, the hearing took place before the Hon. Elihu Root, secretary of war, under a petition from the Lake Carriers' Association which asked the secretary to issue a temporary restraining order requiring the board of trustees of the Sanitary District of Chicago to so control and restrict the flow of the water from Lake Michigan through the Chicago drainage canal as might be necessary from time to time to prevent the operation of the Chicago drainage canal from becoming obstructive to navigation and injurious to property. The petition further asked that such restraining order remain effective until the Sanitary District of Chicago or the municipal authorities, by the removal of center bridge piers, lowering of

tunnels, straightening and widening of the river and controlling works at the Robey street entrance, should make it possible to operate the canal without damage or danger to vessels navigating the river or to the property interests thereon. The trustees of the Sanitary District were represented at the hearing by counsel and the city of Chicago was represented by L. E. McCann, commissioner of public works. The secretary of war, after hearing all parties, instructed the United States engineer resident at Chicago to investigate and report. Several communications have since been sent by the committee to the secretary of war, but the relief asked from him has not been granted up to the present time.

There is no doubt that the operation of the incomplete drainage canal has caused serious injury to navigation interests and to property on the Chicago river. It is not just that this injury should remain without compensation, and with the prospect of additional losses at the opening of the next season of navigation. The United States authorities have it in their power to exercise such control over the operation of the canal as to minimize the danger and expense therefrom, and a united effort at law, if necessary, should be made by those injured to effect a recovery from the sanitary trustees.

On June 1, 1900, Capt. J. C. Keith, upon whom, with Mr. Frank J. Firth, chairman of the special committee, has devolved much labor in connection with this matter during the past year, served further notice on the trustees of the Sanitary District that vessels navigating the Chicago river were suffering damage and delay and heavy expense for increased tug service and serious loss in earnings, estimated at from 3 to 6 per cent., owing to their inability to load to the ordinary depth customary before the opening of the canal; also requesting the trustees to indicate to the committee of the Lake Carriers' Association the proper channels through which application for compensation for these losses should be made.

The experience at Chicago during the past year justifies your board of managers in saying that no more important matter affecting the lake interests is now pending than the general subject of the maintenance of lake levels. Dangerous precedents are being established each year and small reductions in lake levels are being multiplied at various points in a way which should cause the greatest apprehension, not only to vessel owners, but to all the business interests dependent upon lake navigation. The lake commerce has been built up by a vast expenditure made by the government for deepening the connecting channels and harbors. To a certain extent this work is being slowly but surely nullified by those who are diverting the waters of the lakes and connecting rivers from their regular channels for purposes other than navigation. It is gratifying to know that the subject is at last receiving attention at Washington. The river and harbor bill, now pending before congress, contains the following provision:

"That the president of the United States is authorized, by diplomatic negotiations or otherwise, to enter into such agreements as will secure, so far as possible, the maintenance of suitable levels in the great lakes and connecting waters, between the United States and Canada."

The phraseology of this section is very broad, and its adoption by congress would seem to give the proper department of the government most complete authority to enter into reciprocal contracts on this subject with the British government. The report of the river and harbor committees, which accompanies the bill, refers to this section as follows:

"Any agreement of this nature must of necessity be international. It would be in the power either of citizens of the United States or Canada by the construction of diverting works or power canals to lower channels absolutely essential for navigation. Information has reached the river and harbor committee that the Canadian government is ready to enter into negotiation upon this subject, and it is thought that agreements can be reached which will readily solve this problem in a manner for the mutual interests of both countries.

POWER CANAL AT THE SAULT.

The last annual report referred to the construction of a power canal at Sault Ste. Marie, and to the necessity that every safeguard should be taken to prevent the operation of the canal from being injurious to carrying interests on the lakes. A special committee was appointed at the last annual meeting to visit Washington in connection with the legislation pending before the last congress relating to this subject. The company constructing the power canal desired the passage of a bill authorizing them to divert water from the St. Mary's river into the canal. The Lake Carriers' Association did not desire to interfere with the great project now being carried out at the Sault, but did wish to be heard in connection with the proposed legislation, in order to secure such provision in the bill as would, beyond question, confer the fullest authority upon government officials to prevent any reduction of the levels of Lake Superior and the St. Mary's river, or any impairment of the safe navigation of the St. Mary's river above the canal by the introduction of dangerous currents or otherwise. The special committee which visited Washington in this matter spent several days in consulting with the power canal officers, attorneys and engineers in perfecting the phraseology of the bill, so that it would produce the desired results in the way of safety. After much effort a substantial agreement upon the form of the bill was reached, and the bill is now before congress with a favorable report from the river and harbor committee. The bill provides that coincident with the diversion from the River St. Mary into the power canal of any of the water of such river, the company shall provide and maintain suitable remedial works in the rapids of the River St. Mary of such extent that the operation of the canal, either in itself or in conjunction with any other canal in the United States or Canada, shall not diminish the water level or affect the navigation of Lake Superior or the navigable channels in the St. Mary's river. Before the remedial works shall be constructed, a board of five engineers, of which a majority shall be officers of the corps of engineers of the United States army, shall consider and report on the construction of the remedial works and the proposed method of operating the same, and the canal shall not be operated or the remedial works constructed until the same shall be approved by a majority of such board of engineers, as well as by the secretary of war and chief of engineers. The bill also provides that in case the operation of the canal at any time is injuriously affecting the levels or the navigation of Lake Superior or the St. Mary's river, the secretary of war may make such rules and regulations for the operation of the canal and works as will prevent such injury, and for that purpose he may remove

the works and control the flow of water in the canal, and take any other steps he may deem necessary to protect the interests of navigation. Section 6 of the bill provides that if at any time an international commission shall be duly created to investigate and report upon the maintenance of the levels of the navigable waters, between the United States and Canada, and in case such commission shall recommend rules and regulations which shall become operative, the secretary of war may require the power canal at the Sault and all works connected therewith, to be operated, maintained or changed in accordance with such rules and regulations. As legislation on this subject was sought by the power company in order to give them a right to divert water from the St. Mary's river into their canal, and was not in any way sought by the Lake Carriers' Association, no effort on the part of the association has been made to press the passage of this bill, and as the power company appear to have given the matter no attention at this session, the whole subject will probably go over to the next congress. In the meantime the officials of the power company will be obliged to operate the canal subject to the existing provisions of law, which give the secretary of war the fullest authority to prevent the impairment of the capacity of any navigable channels of the United States. In view of the costly government works at the Sault and the great importance of every inch of water in the channels above the locks, the rights of vessel owners and the paramount interests of navigation ought to be safe in the hands of the secretary of war.

VISIT OF THE RIVER AND HARBOR COMMITTEE TO THE GREAT LAKES

Probably the most important event in the past year, especially in view of practical results to be obtained therefrom, has been the tour of inspection through the great lakes made by the river and harbor committee of the house of representatives, upon the invitation of the Lake Carriers' Association. Thirteen of the seventeen members of the house committee made this trip, the party including Chairman Burton of the house committee, and Representative Reeves of Illinois, Dovener of West Virginia, Bishop of Michigan, Acheson of Pennsylvania, Morris of Minnesota, Alexander of New York, Lawrence of Massachusetts, Davidson of Wisconsin, Lester of Georgia, Bankhead of Alabama, McCulloch of Arkansas and Sparkman of Florida. Gen. H. H. Bingham, a member of the house committee on appropriations, was also a member of the party, as was Senator Thomas S. Martin of Virginia, a member of the senate committee on commerce. The association also invited Prof. Willis L. Moore, chief of the weather bureau, and Mr. Sharwood, secretary of the Maritime Exchange of Philadelphia, to make the trip, and both of these gentlemen accompanied the party. The United States engineers in charge of the river and harbor works along the lakes were present with the congressional party, while the tour of inspection covered the works under their special charge. The Lake Carriers' Association's committee on the trip consisted of Messrs. Harvey D. Goulder, James S. Dunham, A. W. Colton, G. W. Gardner and C. H. Keep. Capt. McKay, chairman of the committee on aids to navigation, accompanied the party from Cleveland to the Sault, and Representatives Weeks of Michigan and Sheldon of Michigan also joined the party while it was passing through the districts which they represent.

The entire party, numbering thirty-nine altogether, assembled at Buffalo on the 6th of August. They made careful inspection of Buffalo harbor and the Niagara river from Buffalo to Niagara Falls. After leaving Buffalo on the revenue cutter Fessenden, which was kindly placed at the disposal of the party by the secretary of the treasury, they visited the harbors of Erie, Conneaut, Ashtabula, Fairport, Lorain and Cleveland. At Cleveland they took the revenue cutter to Detroit, making a careful inspection of the lower Detroit river and the vicinity of the St. Clair Flats canal. Boarding the steamer North West at the St. Clair Flats, they proceeded through the St. Mary's river to Hancock, Mich., passing through the Portage canals, and making a short visit to the mines of the Calumet & Hecla Company near Hancock. The next point visited was the head of the lakes, where the harbors of Duluth and Superior were thoroughly looked over. Four days were spent at the head of the lakes, of which two and a half days were spent on a special train, placed at the disposal of the party by the presidents of the Duluth & Iron Range, Duluth, Mesaba & Northern and Great Northern railroad companies. All the principal iron mines on the Mesabi and Vermillion ranges were visited. From Duluth the party returned on the steamer North Land to Mackinac, where most of them took a special train, visiting the harbors of Sheboygan, Manitowoc and Milwaukee. Two days were afterwards spent at Chicago, one in the inspection of the Chicago river and drainage canal, and one at South Chicago and Calumet. The party disbanded at the close of the Chicago visit.

While the trip was undertaken upon the invitation of the Lake Carriers' Association and the plans therefor were made and carried out by the officers of the association, much of its success was due to the local boards of trade and business men's associations which undertook the entertainment of the party at the various ports and harbors visited. A magnificent entertainment was provided for the committee and other members of the party at Cleveland, the home of Chairman Burton. The party was very handsomely entertained at other points on the route, notably at Buffalo, Erie, Detroit, Duluth, Superior and Chicago.

The trip was a revelation to many members of the committee, especially to those from distant parts of the country, who had entirely inadequate ideas of the extent of the lake traffic and the gigantic proportions of the business enterprises dependent upon it. Every member of the committee expressed himself as greatly impressed with the extent to which every government work on the lakes was now utilized, and as ready to join hands in bringing about necessary improvements to make the channels and harbors adequate for the business in sight.

The practical benefits of such a trip to the lake carrying interests are best shown by a brief summary of the principal provisions of the river and harbor bill now pending in congress, so far as the same relate to lake harbors and channels. Among the important projects provided for by this bill are the following:

For improving the Middle and West Neebish channels, St. Mary's river, Mich., so as to provide two channels for up bound and down bound vessels, from Hay lake to the Middle and West Neebish, \$500,000 is provided, and the secretary of war is authorized to enter into contracts not to exceed in the aggregate \$4,000,000 in addition to the \$500,000.

General authority is given to the secretary of war to expend necessary amounts from funds now on hand, provided for by the appropriations

for the 20-ft. channel from Duluth to Chicago and Buffalo, in removing obstructions to navigation which may develop in the connecting waters of the great lakes. This provision is of great importance, as it places in the hands of the government engineers a considerable sum of money which they can use promptly where needed to remove minor obstructions as may be found in the rivers.

Three hundred and thirty thousand dollars is provided for an additional canal at the St. Clair Flats.

Five hundred thousand dollars is appropriated for improving the channels in the lower Detroit river, and the secretary of war is authorized to contract further to the extent of \$1,250,000 for this work. This will provide for the widening and straightening of the channels at and near the Lime-Kiln crossing, making a minimum width of the channel of 600 ft. and low water depth of 21 ft. and eliminating the bends between the head of Lime-Kiln crossing and Bois Blanc island.

In addition to these three channel improvements, all of the first importance, very important provision is made for harbor improvements on the lakes. Among the principal items of this kind are \$200,000 for breakwater work at Buffalo; \$200,000 for improving the entrance to Black Rock harbor behind the new northerly breakwater at Buffalo, with further provision that the secretary of war may contract for the completion of this improvement at an expense not to exceed \$614,643, in addition to the \$200,000 now appropriated; \$257,000 for the improvement of Niagara river from Buffalo to Tonawanda; \$75,000 for the improvement of Conneaut harbor, with provision that the secretary of war may contract for the completion of the existing project there, at an expense not to exceed \$342,000 in addition; \$150,000 for the improvement of Fairport harbor; \$600,000 for a new breakwater at Cleveland, with provision that the secretary of war may contract for the completion of the project at an additional expense of not to exceed \$2,200,000; for harbor improvement at Ludington, Mich., \$36,000, with provision that the secretary of war may contract for the completion of the project at a further expenditure of not to exceed \$185,000; for improving the harbor of Milwaukee, Wis., two appropriations, aggregating \$170,000; for improving the harbor at Sheboygan, Wis., two appropriations, aggregating \$78,200; for improving Burlington bay, Two Harbors, Minn., \$200,000, with provision that the secretary of war may contract for the completion of the project at an additional expense not to exceed \$235,000.

As the funds of the Lake Carriers' Association would not allow the expense attendant upon this tour of inspection to be paid out of the regular funds in the treasurer's hands, a call for voluntary subscriptions of one cent per net registered ton was issued. A generous response was made to this call, no less than 575,000 tons being at once pledged to the extent of one cent per ton. On July 21 a call for two-thirds of the amount of this subscription was made. On Sept. 17, after all expenses connected with the trip had been provided for, 30 per cent. of the amount called was returned to the subscribers.

LEGISLATION NOW PENDING IN CONGRESS TO PROMOTE THE BUILDING UP OF AN AMERICAN MERCHANT MARINE IN THE FOREIGN TRADE.

On Feb. 9, 1897, Frank J. Firth, Harvey D. Goulder and Charles H. Keep were appointed a committee to represent your association in the membership of a general "Committee on the Restoration of the American Mercantile Marine." This general committee was organized upon the invitation of Senator W. P. Frye, for many years an intelligent and untiring advocate of the national interests in shipping. The committee included in its membership men of all political beliefs, senators, representatives, merchants, manufacturers, ship builders and ship owners, and it was invited to consider and recommend legislation for the encouragement of ship building and ship owning, with particular reference to the foreign trade.

It was a well known fact that our merchant flag had practically disappeared from the oceans in the foreign trade and that we were almost wholly dependent upon other nations to carry our farm and factory products to foreign markets. It was also well known that the comparatively few ship building industries we had upon our extended sea coasts on the Atlantic and Pacific owed their existence wholly to the demands of our naval establishment and our protected home and coastwise trade. And further, those in authority viewed with anxiety the recognized inefficiency of our navy and army in event of war, because we had no merchant marine upon the oceans to call upon for the essential transport, supply and auxiliary service without which no modern defensive or offensive war can be conducted.

Your committee gladly undertook to aid in this important work, because of its national claims, and because they deemed it prudent to see that in any proposed legislation no unintentional harm should be done to the navigation interests of the great lakes.

As the result of the labors of the general committee, guided by ex-Senator Edmunds as counsel, a bill was prepared and submitted. It has been amended in many respects and is now before congress known as the Frye-Grosvenor shipping bill. If enacted into a law it is hoped by those who have devoted much time to its preparation and study, that it will operate to encourage and increase our ship building industries, and to place our merchant ships upon the oceans carrying our products to the world's markets in time of peace and available as essential auxiliaries for the national defense in time of war.

Your committee continues in the membership of the general committee and will make the protection of the navigation interests of the great lakes its special care in any proposed legislation.

PRIVATE LIGHTING MATTERS DURING 1900.

The treasurer's report shows that \$5,109.00 was expended for private lighting during the past year, as compared with an expenditure for this purpose in 1899 of \$5,334.00. During the year the association has got rid of one set of private ranges in the Sault river by the establishment of a Canadian government range in their place. Another private range at Birch point in the upper St. Mary's river, which has been for several years maintained by the Lake Carriers' Association, will be replaced next season by a set of ranges to be built and maintained by the United States government. Provision for these ranges was made by congress several years ago, but there has been much delay owing to difficulty in getting title to the site of one of the towers. Sites have now been procured and Major Handbury, in charge of the district, writes that he will begin the construction of the beacons immediately.

Believing that the construction of artificial and improved channels in connecting waters of the lakes by the United States government, often times at an expense aggregating millions of dollars, ought logically to be followed by provision for the adequate lighting of these expensive channels, the officers of the Lake Carriers' Association have sought some remedy to secure relief from the expense to which the association has been put for many years past in lighting such channels as those at Ballards reef, Amherstburg and at various points in the St. Mary's river. With the exception of the Birch point ranges above referred to, same to be replaced by United States government lights, all the lights maintained by the Lake Carriers' Association are on Canadian soil. Under the provisions of the United States laws, the United States light-house board cannot provide for the establishment of lights on Canadian soil, and it has not been possible up to the present time to induce the Canadian government to take upon themselves the maintenance of these lights, although during the past season a start has been made in this direction by the construction, under charge of Col. Anderson, the light-house engineer of the Canadian government, of the ranges hereinbefore referred to on the Canadian side of the St. Mary's river. To meet the peculiar circumstances of the case, after consultation with Senators McMillan and Hanna at Washington, it was thought that the best thing to be done was to secure, if possible, an annual appropriation, not exceeding \$10,000, which could be used by the United States light-house board in contracting for the lighting of artificial and improved channels in the connecting waters of the lakes. This would allow the light-house board to contract either with the Lake Carriers' Association or with light keepers direct for the maintenance of lights on Canadian soil where these lights were essential to the safe navigation of improved channels constructed by the war department. An appropriation of \$10,000 for this purpose was inserted by the senate in the sundry civil bill, but in the hurry of the last days of the session the item was stricken out in conference. An effort will be made to have the same item inserted again in this year's sundry civil bill and to secure its retention by the conferees. There is good prospect that this effort will be successful, and if it is, the expense for private lighting which the Lake Carriers' Association has borne for so many years past will be at an end.

MISCELLANEOUS MATTERS.

One of the minor matters that have come before the association during the past year is a project for a suspended cable transfer across the canal entrance to Duluth harbor. This matter was referred to a special committee of the association for investigation, and report, and their report will be presented to the annual meeting.

A very important matter which has had the consideration of late of the executive committee is a plan for a benefit fund to be established and partly supported by the association in the interests of employes serving on board of vessels affiliated with the association, who suffer death or disablement from accident arising out of their service. It is estimated that 9,000 men are employed on all vessels of the Lake Carriers' Association; that the establishment of a benefit fund of this character will tend to promote good feeling between the employers and their employes and to secure steady and reliable men in the service on lake boats. Railroad companies and other large employers of labor who have established similar systems, have found them beneficial. If the men contribute something to the support of such a fund, it tends to retain in service the steady and reliable employes and makes provision for their families in case of death or disabling accident. The matter is a new one for the Lake Carriers' Association to take up and must be dealt with the utmost care. It has had much consideration during the past few weeks at the hands of a special committee appointed to formulate a tentative plan, and also at the hands of the executive committee of the association. A report of the executive committee, with some recommendations on this subject, will be presented at the annual meeting.

DEATH OF MEMBERS DURING THE PAST YEAR.

Capt. Thomas Wilson of Cleveland was one of the founders of the Lake Carriers' Association, had been its president, and in the absence of the president of the association, as its first vice president, he presided during a part of the last annual meeting. His sudden and unexpected death in a far off country brought grief to every member of the Lake Carriers' Association. No member of the association was more interested in its work and no member was more highly regarded and esteemed by his fellow members.

The association has also lost by death during the past year Capt. F. N. LaSalle of Duluth and David Whitney of Detroit, who have been regular members and steadfast friends of the Lake Carriers' Association for many years past.

John Gordon, who recently died at Buffalo, was not a member of the association at the time of his death, but was one of its managers for many years, and took a very active interest in its affairs.

The sad misfortunes which have fallen upon one of the ex-presidents of the association since our last meeting have called forth the most sincere sympathy of every one of his associates on the board of managers.

Respectfully submitted on behalf of the Board of Managers,

By W. C. FARRINGTON, President.

CHARLES H. KEEP, Secretary.

Capt. M. Mulholland of Cleveland was kept busy at the annual meeting of the Lake Carriers' Association directing attention to his patent hatch fastener. He did not intend to take orders at the meeting but found it necessary to do so. Among his latest orders is one from the Detroit Ship Building Co. for 760 of the fasteners to be used on two of the big steel freighters which that company is building. Capt. Wm. Gerlach of Cleveland has ordered an equipment of the fasteners for the steamer Onoko.

Settlers' rates via the Nickel Plate road—Beginning with Tuesday, Feb. 12, low rate settlers' tickets will be on sale every Tuesday to and including April 30, to Oregon, Montana, Washington and all points in the Northwest. Write, wire, phone or call on the nearest agent, C. A. Asterlin, T. P. A., Ft. Wayne, Ind., or E. A. Akers, C. P. & T. A., Cleveland, O.

10 April 30.

FINANCES OF THE LAKE CARRIERS.

ANNUAL REPORT OF GEO. P. MCKAY, TREASURER, COVERING THE YEAR
ENDING DEC. 31, 1900.

RECEIPTS.

| | |
|---|-------------|
| Balance on hand from 1899..... | \$ 8.06 |
| Tonnage dues for 1900..... | 25,933.17 |
| Extra 3 cents on grain shoveled at Buffalo..... | 71.19 |
| Extra 3 cents on grain shoveled at Fairport..... | 7.28 |
| Loaned from Union National Bank..... | 1,650.00 |
| Loaned from James Corrigan..... | 150.00 |
| United States light-house board in payment of three clusters of piles in Lake St. Clair erected by the Lake Carriers' Association in 1896 | 390.00 |
| Total | \$28,209.70 |

DISBURSEMENTS.

| | |
|---|-------------|
| Salaries of Officers: | |
| C. H. Keep, secretary, balance of 1899..... | \$ 150.00 |
| C. H. Keep, secretary, in full for 1900..... | 1,500.00 |
| Geo. P. McKay, treasurer, balance of 1899..... | 100.00 |
| Geo. P. McKay, treasurer, in full for 1900..... | 1,200.00 |
| H. D. Goulder, attorney, balance of 1899..... | 150.00 |
| H. D. Goulder, attorney, in full for 1900..... | 1,500.00 |
| | \$ 4,600.00 |

| | |
|--|-------------|
| Salaries of shipping masters: | |
| A. R. Rumsey, chief shipping master, Cleveland, in full for 1900..... | \$2,200.00 |
| Wm. F. Wall, assistant shipping master, Cleveland, in full for 1900..... | 770.00 |
| J. W. Hanson, chief shipping master, Chicago, in full for 1900..... | 1,100.00 |
| M. P. Felt, assistant shipping master, Chicago, in full for 1900 | 704.00 |
| L. F. Rumsey, assistant shipping master, South Chicago, in full for 1900 | 724.00 |
| Edward Nesbitt, shipping master, Buffalo, in full for 1900 | 990.00 |
| J. A. Logan, shipping master, Ashtabula, in full for 1900 | 748.00 |
| P. Mitchell, shipping master, Toledo, in full for 1900 | 660.00 |
| Wm. Lennon, shipping master, Milwaukee, in full for 1900 | 990.00 |
| | \$ 8,886.00 |
| Incidentals, treasurer's office | \$ 72.96 |
| Incidentals, secretary's office | 90.15 |
| | \$ 163.11 |

Expenses of shipping offices:

| | |
|---|-----------|
| Buffalo: | |
| Rent in full Jan. 1 to Dec. 31, 1900..... | \$ 200.00 |
| Telephone rent and tolls Nov. 15, 1899, to May 15, 1901. | 54.05 |
| Office supplies, incidentals, etc..... | 120.19 |
| | 374.24 |

| | |
|---|--------|
| Ashtabula: | |
| Rent in full Jan. 1 to Dec. 31, 1900..... | 100.00 |
| Office supplies and expenses..... | 32.48 |
| | 132.48 |

| | |
|---|--------|
| Cleveland: | |
| Telephone service from Jan. 1 to Dec. 31, 1900 | 184.84 |
| Rent in full Jan. 1 to Dec. 31, 1900..... | 140.00 |
| Provisions, groceries, merchandise, office supplies and other expenses..... | 654.64 |
| | 979.48 |

| | |
|--|--------|
| Toledo: | |
| Rent in full Jan. 1 to Dec. 31, 1900..... | 100.00 |
| Office supplies and expenses..... | 7.40 |
| Telephone rent in full May 2 to Dec. 31, 1900. | 47.74 |
| | 155.14 |

| | |
|--|--------|
| Milwaukee: | |
| Rent in full Jan 1 to Dec. 31, 1900..... | 100.00 |
| Office supplies and expenses..... | 34.21 |
| | 134.21 |

| | |
|--|--------|
| Chicago: | |
| Rent in full Jan 1 to Dec. 31, 1900..... | 226.68 |
| Telephone rent to July 1, 1900..... | 44.70 |
| Office supplies and expenses | 128.50 |
| | 399.88 |

| | |
|--|-------------|
| South Chicago: | |
| Rent in full April 1 to Dec. 31, 1900..... | 99.00 |
| Telephone tolls | 12.79 |
| Office supplies and expenses..... | 149.45 |
| | 261.24 |
| | \$ 2,436.67 |

EXTRAORDINARY EXPENSES.

| | |
|---|-------------|
| Private lighting: | |
| Maintaining private lights at Lime-Kiln crossing in full for 1900 | \$ 2,000.00 |
| Maintaining private lights at Amherstburg in full for 1900 | 1,350.00 |
| Maintaining private lights on Sault River in full for 1900. | 1,759.00 |
| | \$ 5,109.00 |

Aids to navigation:

| | |
|---|-------------|
| Traveling expenses of Geo. P. McKay to Buffalo, J. W. Westcott and John Mitchell to Port Huron, J. J. H. Brown to Cleveland, C. H. Keep to Washington; for services of tug in searching for floating crib; for lighting Fontana; for charts and for other expenses on account of aids to navigation | \$ 362.74 |
| Reporting stage of water at Lime-Kiln crossing; Bell Telephone Co. of Canada..... | 265.45 |
| Capt. Thomas Wilson's death—Traveling expenses of Messrs. Goulder, H. A. Hawgood, J. G. Keith, and W. C. Farrington in escorting Capt. Wilson's remains, and for memorial..... | 201.75 |
| Chicago Drainage Canal—Traveling expenses of C. H. Keep, James Corrigan, M. M. Drake, H. D. Goulder, Thos. T. Morford, J. G. Keith and W. C. Farrington to Washington and other points; for reporting drainage canal hearing and for long distance telephone messages..... | 519.57 |
| Sault Power Canal—Traveling expenses of C. H. Keep, L. C. Waldo, Capt. D. Sullivan, H. Coulby, H. D. Goulder, James Corrigan, David Vance, Edward Smith, W. C. Farrington and W. E. Fitzgerald to Washington, and for long distance telephone messages account Sault power canal | 882.48 |
| Traveling expenses of A. R. Rumsey, chief shipping master, in visiting shipping offices around the lakes | 355.00 |
| Traveling and other expenses of A. R. Rumsey, account of organizing federation of sailors... | 150.00 |
| Traveling expenses of J. W. Westcott and C. H. Keep, account congressional excursion | 32.00 |
| For services of Timothy Donovan as inspector of grain shoveling at Buffalo for 1899..... | 1,650.00 |
| Union National Bank, in payment of loan with interest | 1,696.22 |
| Union National Bank, in payment of United States treasurer's check returned unpaid..... | 390.00 |
| Telegraph service | 148.73 |
| Printing account secretary's and treasurer's offices | 293.75 |
| Total disbursements | \$28,142.47 |
| Balance on hand | 67.23 |
| | \$28,209.70 |

I have in hand the \$390 check of the light-house board referred to above as returned unpaid on account of a technicality regarding receipt and also as unpaid liability the traveling expenses of Mr. A. B. Wolvin to Washington and return, account Sault Power canal, amounting to \$90.

Respectfully submitted,

GEO. P. MCKAY, Treasurer.

DEATH OF CAPT. JOHN W. MOORE.

Capt. John W. Moore, who died this week as the result of a surgical operation, was born at Avon, O., and had been identified with vessel interests at Cleveland all his life.



He began sailing on the George T. Holt in the 50's and through dint of much perseverance secured sufficient money to start in business for himself. From that time on he gradually added to his possessions until he had amassed a comfortable fortune. The first vessel which he commanded, about 1860, was the schooner George H. Ely, the tow of the steamer H. B. Tuttle, of which his brother, the late Capt. Smith Moore, was master. His last command was the steamer V. Swain. In 1879 he became a member of the firm of Pennington & Moore, vessel owners and agents, and successively of the firms of Pennington & Moore, Moore & Bartow, Moore, Bartow & Gilchrist and Hawgood & Moore. He was the managing owner of the steamers John W. Moore, Colonial, Siberia and Robert Rhodes, and was interested in several other

vessels. He had been confined to his home for two or three weeks, but his death was not expected until a few days before it occurred. Capt. Moore was of a kindly disposition and had a wide circle of friends. Of late years he took a great deal of comfort out of the yacht Marietta, a vessel of his own design, on which his friends were entertained in great numbers throughout the season of navigation.

Repairs to wooden vessels under way at the ship yard of J. B. Bates & Co., Twenty-second and Sangamon streets, Chicago, include quite an extensive job on the steamer Madagascar, which will come out next spring as a double decker. The changes give the Madagascar 7 ft. more depth of hold than she had had in the past.

Mr. H. F. J. Porter, M. E., addressed the engineering students of the Armour Institute of Technology in Chicago on Tuesday evening last on the subject "The Development of the Art of Forging." The lecture was illustrated by fifty stereopticon views.

MARINE REVIEW

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The New York Sun lately contained an editorial devoted to the chairman of the rivers and harbors committee, which while amusing in its construction was most puerile in its views. In order to intelligently comprehend it it will probably be necessary to reproduce it in part. It says:

"In the year 1851, half a century ago, the United States of America constituted a great and powerful nation; not so great and powerful as it is today, it is true, but it was no weakling and no niggard. The population in 1851 was about one-third of what it is now. In that year the total expenditures of the federal government for all purposes, including interest on the public debt, was \$47,751,478. That paid everything, including internal improvements on what was then regarded as a gigantic scale. In that year the regular appropriations by the thirty-first congress for the next fiscal year amounted to less than \$40,000,000; the interest charge carrying the total expenditure for 1852 up to \$44,390,252. The thirty-second congress passed a huge river and harbor bill. It provided for work by the government in every corner of the union. We present some of the items in order that the comprehensive character of the measure may appear.

| | |
|--|----------|
| Continuation of Delaware breakwater..... | \$30,000 |
| Harbor at Port Penn, Delaware..... | 51,090 |
| Hudson river | 50,000 |
| Mississippi, below the rapids..... | 90,000 |
| Ohio river | 90,000 |
| Missouri river | 40,000 |
| James and Appomattox rivers..... | 45,000 |
| Mississippi river rapids | 150,000 |
| Red river | 100,000 |
| Colorado river, Texas..... | 20,000 |
| New York harbor..... | 20,000 |
| Boston harbor | 30,000 |
| Chicago harbor | 20,000 |
| St. Clair river | 20,000 |
| Cleveland harbor | 30,000 |
| Erie harbor | 30,000 |
| Dunkirk harbor | 30,000 |
| San Diego river, California | 30,000 |
| The total of this harbor and river appropriation bill was \$2,114,290. | |

"In 1851, the year of which we have been speaking, there was born in Ohio the Hon. Theodore Expenditure Burton, the statesman who at the age of fifty has produced and reported to congress a river and harbor appropriation bill carrying \$60,000,000 in immediate appropriations and the irrevocable obligations of continuing contracts; that is to say, a bill heavier by \$12,000,000 than the total of all federal expenses in the year of grace in which his genius was physically incorporated."

In the year 1851 the United States of America constituted, indeed, a great and powerful nation; but it was great only in an agricultural sense. It was not a great industrial and commercial nation. It was not in any sense an exporter of manufactured products. The depth of its rivers and harbors was sufficient for the day. In the year 1851 the Sault Ste. Marie canal, the greatest canal in the world in point of cargo tonnage, was not even in existence. In the year 1851 the daily output of ore in the great Lake Superior region was only 18 tons; in the whole working season it was only 1,000 tons. In the year 1851 the United States of America manufactured 350,000 tons of pig iron. In the year 1851 there was not a vessel on the lakes with a much greater carrying capacity than 400 tons and ocean craft were in like proportion. Today on the lakes there are vessels that will carry 8,000 tons; and there are under construction on the seaboard vessels that will carry 20,000 tons. Today the Lake Superior region produces annually an average of over 19,000,000 tons of ore and there is manufactured in the United States annually an average of 13,000,000 tons of pig iron. The call is constant for more capacious harbors and deeper and deeper channels. What if the United States did have in 1851 one-third of the population that it has today? Is that any argument that the river and harbor bill should only be three times as great today? Isn't it a matter of congratulation that it is thirty times as great. It is thirty times as great because the country is in an industrial sense thirty times greater than it was in 1851. Mere population is nothing. It's what the population is doing that counts. In 1851 10 ft. of water in the harbors of the lakes was enough; now 20 ft. is not sufficient to satisfy the demands of commerce. That extra 10 ft. had to be dug out and it requires money to do the digging. Today 40 ft. is none too great a depth for the ocean leviathans. In an industrial sense 1851 belongs to the middle ages. The sum of \$2,114,290 for harbor improvements in 1851 was far greater than \$60,000,000 today. In 1851 the world was lighted with candles. It did not even have petroleum.

One of the strongest resolutions of congratulation to Hon. T. E. Burton on the passage of the river and harbor bill in the house was that adopted by the Lake Carriers in annual convention at Detroit.

MORE ORDERS FOR BIG SHIPS.

The American Ship Building Co. has just concluded arrangements with eastern capitalists represented by Charles E. & W. F. Peck of New York for the construction of two steamers to engage in transatlantic service and to carry 7,000 gross tons cargo with about 1,000 tons fuel capacity on 25½ ft. draught at 10 knots speed. This is the first move on the part of the big lake ship building organization to build in two parts ships of large capacity for salt water service. These vessels will each be towed through the St. Lawrence canals in two parts and put together at Montreal or some other point below the shallow waters of the St. Lawrence. Dimensions are to be 430 ft. keel, 450 ft. over all, 43 ft. beam and 35 ft. depth. A 5-ft. water bottom will be provided and the ships will be of the three-deck type. They will each have four Scotch boilers, fitted with Howden draft, and triple expansion engines capable of developing about 3,000 H.P. They will be finished before the close of navigation next fall and will cost about \$450,000 each.

It was learned at the annual meeting of the Lake Carriers' Association that two instead of one steel freight steamer of about 5,300 gross tons capacity are to be built by the Newberry-McMillan interests in Detroit, represented by Mr. Frank E. Kirby. The vessels are to have even less power than the Senator and other Detroit-built ships that are regarded as very economical in operation. It was also learned that the Jenks Ship Building Co. of Port Huron has sold to Cheesbrough Bros. one of the two steel steamers which they have on the stocks. The other vessel is for Samuel Neff of Milwaukee. W. H. Meyer of Milwaukee, who attended the Detroit meeting, is figuring with the builders for the construction of one or two steel steamers.

DRY DOCK ASSOCIATION OF THE GREAT LAKES.

Representatives of the different dry docks of the lakes met in Detroit on Tuesday, just previous to the opening of the annual meeting of the Lake Carriers' Association, and elected officers as follows: President, James C. Wallace of Cleveland; vice president, Edward Smith of Buffalo; secretary and treasurer, James E. Davidson of West Bay City. There are some five or six dock plants that are not controlled by the American Ship Building Co., and all of them were represented. Only a few changes, none of them of very great importance, were made in the card that contains rules and schedule of charges. Hereafter when loaded vessels are docked 10 cents a ton will be charged for the cargo, and the vessel must take all risk and pay all extra expense. Tugs will pay 50 cents a foot keel measurement, dredges 75 cents per foot deck measurement, and scows 60 cents per foot. It is understood also that the card will contain no specified rate of pay per hour for men furnished by the dock companies to work by the hour. This will be left to special agreements for different cases.

ORGANIZATION OF LUMBER CARRIERS.

Representatives of the lumber tonnage gathered at the Normandie hotel in Detroit on Thursday to endeavor to perfect an organization. The meeting opened with a general discussion of the advantages of organization. F. W. Gilchrist of Alpena was elected president and Capt. C. H. Weeks of Duluth, secretary. The following committee was appointed to perfect the details of organization: Edward Hines of Chicago, E. H. Prescott of Cleveland, H. E. McMorran of Port Huron, O. W. Blodgett of Bay City, William Teare of Cleveland, Alex Sinclair of Duluth, M. Sicken of Marine City, C. I. Roland of Toledo and C. M. Zangerle of Detroit. The lumbermen hope by their organization to remedy what they regard as unfair labor conditions attending the loading and unloading of lumber. The remedy will be sought through the labor organizations, if possible. The organization committee will report during the present week.

CRAMPS-VICKERS' SONS & MAXIM COMBINATION.

It is stated that the Cramps-Vickers' Sons & Maxim combination plan will be formally acted upon when the representative of the English firm comes again to this country. The \$10,000,000 new 4½ per cent. debenture bonds have already been underwritten in London, New York and Philadelphia. The Morton Trust Co. is handling the issue in New York. The proceeds of \$1,500,000 of these bonds will be used to retire the Cramp Co. 5 per cent. bonds at 110. The proceeds of \$7,500,000 of the new issue will be invested in a steel plant. Whether or not the Midvale plant will be purchased has yet to be determined. The \$5,000,000 new 6 per cent. cumulative preferred stock is to be exchanged share for share for the present Cramp Co. stocks, nearly \$5,000,000 outstanding, which now pays 5 per cent. A syndicate stands ready to take the remaining \$5,000,000 of new preferred stock, which will inject that much new capital into the combined business. The \$10,000,000 new common stock will be taken by Vickers' Sons & Maxim interests and will pay the cost of the American banking operations. It is planned to finance the entire operation on a 5 per cent. basis.

ANNUAL MEETING OF MARINE ENGINEERS.

It is expected that about 130 delegates from branches of the Marine Engineers Beneficial Association throughout the United States will attend the annual convention, which will be opened at the Colonial hotel in Cleveland next Monday morning at 9 o'clock by National President George Uhler. For several years the engineers have met in Washington, on account of bills pending in congress, and for the purpose also of meeting the supervising inspectors of steam vessels who hold their annual meeting about this time. The convention was brought to Cleveland through the efforts of F. M. Harmon of the Wilson Transit Co. and E. Jenkins of the Cleveland-Cliffs Iron Co., who were the representatives to the national convention held in Washington last year. The Cleveland committee in charge of arrangements is President H. T. McAuley of the Cleveland branch, F. M. Harmon, Wm. Kennedy and H. W. Burton. Quite an elaborate program of entertainment has been arranged, including trips to the ship yards, to the Cleveland City Forge, Otis steel works and other places, and a ball and banquet Thursday evening in the Chamber of Commerce hall.

ATLANTIC AND PACIFIC COAST BUILDERS.

A NUMBER OF NEW CONTRACTS ARE TO BE NOTED IN THE SHIP YARDS OF THE COUNTRY.

The Bath Iron Works Co. has been asked to figure on a seven-masted steel schooner that can carry 5,000 tons of coal. "Heretofore," says President Hyde, "schooners in Maine have been built of wood. It is rather peculiar that Maine should still excel in this industry for nearly all the wood for ships come from distant states. The oak for the frames is brought from Virginia, the yellow pine planking from North Carolina and the tall masts from Oregon, whence they are conveyed by rail, three flat cars being required for their transportation. But Maine has men thoroughly acquainted with the business and that is the reason why the work is done in our state and why our ship yards retain their supremacy."

Carlton, Norwood & Co., Rockport, who recently sold their lime plant to the Rockland-Rockport Lime Co., are to renew the ship building business. Next spring they will begin the construction of a four-masted schooner, for Capt. Simon H. Wall of Rockport, in the Pascal yard. This is the first vessel to be built there since 1892. The model for the vessel is now being made by J. J. Wardwell, master builder in the Cobb-Butler yard, Rockland. She will be single deck and of the following dimensions. Length of keel 160 ft., depth 13 ft., beam 37 ft., tonnage about 600 tons.

Contract for the construction of the new steamer Vermont for the Champlain Transportation Co. has been awarded to W. & A. Fletcher Co., Hoboken, N. J. Her dimensions are 250 ft. keel, 262 ft. over all; beam 62 ft., depth 11 ft. 6 in. She will have accommodations for 2,500 passengers. J. W. Millard, 32 Broadway, N. Y., is the marine designer.

It has been decided that the new Oriental Steamship line in connection with the Oregon Railroad & Navigation Co. shall be operated by the Portland & Asiatic Steamship Co. The first of four 10,000-ton steamers to be delivered to the new company will be the Indrapura, which it will receive at Hong Kong on Feb. 21.

The John M. Rogers, boat, gauge and drill works, Gloucester City, N. J., builders of steam power outfits for yachts and launches, have issued a very tasty catalogue, giving views of engines, oil burning steam generators and other of their products. The catalogue is to be had upon application.

The second and last section of the Hardy machine shops, Tacoma, has been successfully removed to the new site on the Puyallup waterway. The building was removed without dismantling the machinery, an undertaking which created considerable interest among engineers.

Five-masted schooner Oakley C. Curtis will be launched from Percy & Small's ship yard, Bath, Me., on Saturday. Her dimensions are: 245 ft. keel, 46 ft. beam; 22 ft. depth of hold. J. S. Winslow & Co. own her.

Crowell & Thurlow of Boston are having a four-masted schooner built at Cobb, Butler & Co.'s yard, Rockland, Me., which will be completed in March. She will have a carrying capacity of 2,600 tons.

Tarr & James, Essex, Mass., have contracts for vessels which will keep them busy until next September. The firm this week launched a schooner for Orlando Merchant of Gloucester, Mass.

The Kennebec Steamboat Co., which operates the line between Boston and Kennebec river ports, is having plans made for a new modern steamer.

PROGRESS OF WORK AT NEWPORT NEWS.

[Special Correspondence Marine Review.]

Newport News, Va., Jan. 15.—Work on the repairs to the North German Lloyd steamer Main, almost totally destroyed in the terrible fire at Hoboken, is progressing very rapidly at the ship yard here. A large proportion of the injured plates has been removed and the work of replacing these with new ones goes merrily on. The amount of rubbish taken from the hold of the monster steamship is something remarkable. All sorts of rumors have been floating around concerning the rich finds made. One man, it is reported, found a pound of pure gold, which had been melted by the heat of the fire, while another claims to have found a human skull in the debris. Neither report could be confirmed. This contract, exclusive of woodwork, is over \$500,000. The immense electric crane Hercules, the largest in the world, has been having a busy time of it recently. The last shipment of barbette armor for the 13-in. turrets of the battleship Illinois has been received. The huge pieces of case hardened steel were put together on the dock and then swung into place by the giant crane. The four 13-in. guns for the ship are lying right under the crane and will be swung into position as soon as the turrets are prepared to receive them. Work on the two Pacific Mail line steamships is being pushed as rapidly as possible. The sliding ways for the Korea, the first to go overboard, are being constructed. She will take her initial dip about March 15. Her sister ship will follow in a few weeks. These two vessels are probably the largest ever built on the American continent, being nearly 600 ft. in length and having a displacement of 18,500 tons. They are intended for service between Pacific coast ports and the Orient. Progress on the battleship Missouri has been rather slow, on account of delay in receiving the government's portion of the material for its construction. The vessel, however, is beginning to take form on the ways and as soon as the Korea is out of the way work will probably be rushed on this warship.

The gate for the million dollar dry dock is nearly completed and as soon as the stone work at the mouth of the dock is finished the immense basin will be ready for use, with the exception of dredging away the small embankment which now keeps the water out. When this is completed the yard will have two dry docks and will be able to handle two large and two small ships at the same time, by doubling them up in the docks.

Wm. F. L.

Mr. Jas. H. Williamson, business manager of the Viennot advertising agency, Philadelphia, announces that for the convenience of his clients he has removed the New York office of the agency from 127 Duane street to room 719 Temple court.

MR. CLEMENT A. GRISCOM ON OUR MERCHANT MARINE.

Mr. Clement A. Griscom, president of the International Navigation Co., has written a special article for the Saturday Evening Post upon the subject of the "Merchant Marine." He makes an earnest plea for the shipping bill. Among many things he says:

"The American merchant marine in foreign trade is entitled to government aid as a broad matter of public policy, not merely as embracing the private industries of ship building and ship owning. The merchant marine stands in the same relationship to the common defense of the country, for which the constitution instructs congress to provide, as the militia of the states stands to the regular army. National navigation is a necessity to the public defense. There are millions of strong and easily trained arms ready to defend the country on land; on the sea we must have ships and the men to navigate them, and these are not to be had for the asking in a day or a month. The fathers of the republic believed that they had in the merchant marine left to us ample means to supplement the navy in defending the country at sea. As a matter of fact, for our recent war with Spain we not only pressed into the service the few American merchant steamships in existence, but we were compelled to draw on the maritime resources of a not unfriendly power to aid us. Suppose the war with Spain, instead of brilliantly concluding with decisive triumphs in three months, had been prolonged for a year. We should have been absolutely without the means for transporting our troops or for coaling the fleets of the navy. During the actual stress of war, no nation, of course, could have actually sold us ships without violating both the letter and spirit of neutrality. Yet our entire transport fleet, bought by the war department since the close of the war, consists of foreign vessels, and all the colliers of the navy were bought from the British flag.

"The United States should adopt the policy which Great Britain, France, Germany and Japan have adopted, of carrying ocean mails to all parts of the world in steamships under its own flag. If I am to be criticised for writing in behalf of an interest with which I am particularly identified, then I claim, as an offset, the privilege of having my statements on this phase of the matter accepted as those of one who speaks with information. We are asking in the matter of American ocean mails for substantially the system which Great Britain has followed almost since the beginning of steam navigation, and for which, during sixty years, she has spent in the neighborhood of \$240,000,000. The statement frequently put forth that Great Britain pays for her ocean mails nothing but the bare cost of carrying them is absolutely without foundation. I have before me the report of the British postmaster general for 1897. At pages 62 and 63 that report states that the payments for the foreign and colonial mail service amount to £770,943. The estimated receipts for sea postage amount to only £115,068. The estimated British loss on the sea service amounted to £439,000. The balance was made up by contributions from the colonies ranging from the sum of £25, subscribed by the little island of Tortola, up to £75,000, subscribed by the Australian federation. These, then, are the broad facts of the British mail service: expenses £770,943, receipts £115,068. The balance represents generally the sacrifice Great Britain and the colonies feel justified in making to secure the carriage of ocean mails by the largest and fastest British steamships.

"Turn now to the method at present in use by the United States. I find in the report of the superintendent of foreign mails for 1900, at page 11, the statement that the cost of the ocean mails of the United States, carried to a very large extent by foreign vessels, was \$2,014,538, while the receipts were \$3,467,139, so that our government makes an annual profit of \$1,452,601. As an offset to this profit on the books of the treasury we have the facts that American steamships are almost unknown to the ports of the old world, while British ocean mail steamship lines, maintained at the government's loss of over \$3,000,000 a year, are found in every port. Under the unequal conditions indicated by these bald facts, why should not British mail steamship companies thrive, and how can we look for the creation of new American steamship lines?

"The only great industries in which our country has not of late years attained prominence are the building and navigating of steamships for the foreign trade. Our merchant marine engaged in the foreign trade is comparatively insignificant. At the same time this fact confronts us that there has not, in a generation, been so great an opportunity to establish an American merchant marine as that afforded by present conditions, not only at home, but abroad. The war with Spain indirectly gave a great stimulus to ship building in the United States. The war and navy departments, it will be recalled, bought a considerable number of American steamships engaged in the coastwise trade, and the owners have been replacing them by new, larger and faster ships. Besides these facts, every American ship owner knows that, in part at least, the activity of ship building at the present time is due to the belief that legislation will be enacted at an early date to promote the American merchant marine. This belief is based on the knowledge that the present is a most opportune time for such legislation, because, owing to temporary influences, the price of ship building in Great Britain is about 40 per cent. higher than four or five years ago. For my own part, in view of the perfectly well established differences in the cost of building steamships here and in Great Britain, and in operating them under the American and foreign flags after they have been built, and in view of the liberal policy which foreign nations have pursued toward their shipping and our own neglect of our commercial marine, I do not see how the promise held forth by existing conditions can be made good unless congress is willing to pass a bill based on the subsidy principle. If congress shall pass a law I am equally positive that ship building for the foreign trade in the United States will develop so rapidly that we shall attain all the advantages inseparable from wholesale construction, which are at the base of Great Britain's long predominance as a maritime nation. From such wholesale ship building, conducted in all parts of the United States, a reduction in prices would surely ensue, and the benefit of this reduction would go not only to all the commercial, industrial and agricultural interests involved in shipping, but would accrue to the government itself in the form of lower prices for war vessels. It is conceded that our very large expenditures for the navy have been one of the most powerful agencies in establishing such ship yards as we now have on the seaboard. Without this naval construction and without the coasting law the building of large vessels in this country would never have attained the proportions already reached. The object of the shipping bill, in a word, is to complete the industrial independence of the United States."

MONTHLY SUMMARY OF NAVAL CONSTRUCTION.

Excellent progress is noted in the construction of naval vessels in the latest monthly report of the chief constructor, Rear Admiral Hichborn. The sheathed protected cruisers are making considerable advance. The first of them to be launched will be the Cleveland at the Bath Iron Works, Bath, Me., which is now 40 per cent. completed. Following is the report:

| | | Degree of completion, Per cent. | |
|---------------------|------------------|---------------------------------|---------|
| | | Dec. 1. | Jan. 1. |
| BATTLESHIPS. | | | |
| Illinois | Newport News | 87 | 87+ |
| Alabama | Cramp & Sons | 99+ | 99+ |
| Wisconsin | Union Iron Works | 98+ | 99+ |
| Maine | Cramp & Sons | 38 | 40 |
| Missouri | Newport News | 19 | 21 |
| Ohio | Union Iron Works | 35 | 36 |

| | | | |
|-------------------------------------|-----------------------|----|----|
| SHEATHED PROTECTED CRUISERS. | | | |
| Denver | Neafie & Levy | 34 | 37 |
| Des Moines | Fore River Engine Co. | 11 | 12 |
| Chattanooga | Lewis Nixon | 15 | 17 |
| Galveston | Wm. R. Trigg Co. | 4 | 6 |
| Tacoma | Union Iron Works | 11 | 13 |
| Cleveland | Bath Iron Works | 31 | 40 |

| | | | |
|------------------|------------------|----|-----|
| MONITORS. | | | |
| Arkansas | Newport News | 45 | 46+ |
| Nevada | Bath Iron Works | 74 | 76 |
| Florida | Lewis Nixon | 54 | 56 |
| Wyoming | Union Iron Works | 61 | 65 |

| | | | |
|---------------------------------|------------------------|-----|----|
| TORPEDO BOAT DESTROYERS. | | | |
| Bainbridge | Neafie & Levy | 84 | 86 |
| Barry | Neafie & Levy | 82 | 84 |
| Chauncey | Neafie & Levy | 82 | 84 |
| Dale | Wm. R. Trigg Co. | 86 | 88 |
| Decatur | Wm. R. Trigg Co. | 86 | 88 |
| Hopkins | Harlan & Hollingsworth | 68 | 70 |
| Hull | Harlan & Hollingsworth | 68 | 69 |
| Lawrence | Fore River Engine Co. | 99 | 99 |
| MacDonough | Fore River Engine Co. | 97 | 98 |
| Paul Jones | Union Iron Works | 79+ | 80 |
| Perry | Union Iron Works | 82 | 85 |
| Preble | Union Iron Works | 79+ | 80 |
| Stewart | Gas Engine & Power Co. | 40 | 45 |
| Truxton | Maryland Steel Co. | 47 | 51 |
| Whipple | Maryland Steel Co. | 46 | 50 |
| Worden | Maryland Steel Co. | 46 | 49 |

| | | | |
|-----------------------|------------------------|----|----|
| TORPEDO BOATS. | | | |
| Stringham | Harlan & Hollingsworth | 98 | 98 |
| Goldsborough | Wolff & Zwicker | 99 | 99 |
| Bailey | Gas Engine & Power Co. | 99 | 99 |
| Bagley | Bath Iron Works | 96 | 98 |
| Barney | Bath Iron Works | 98 | 99 |
| Biddle | Bath Iron Works | 92 | 96 |
| Blakely | Geo. Lawley & Son | 97 | 97 |
| DeLong | Geo. Lawley & Son | 97 | 97 |
| Nicholson | Lewis Nixon | 82 | 83 |
| O'Brien | Lewis Nixon | 85 | 86 |
| Shubrick | Wm. R. Trigg Co. | 97 | 97 |
| Stockton | Wm. R. Trigg Co. | 97 | 99 |
| Thornton | Wm. R. Trigg Co. | 92 | 93 |
| Tingey | Columbian Iron Works | 67 | 67 |
| Wilkes | Gas Engine & Power Co. | 68 | 70 |

| | | | |
|---------------------------------|------------------|----|----|
| SUBMARINE TORPEDO BOATS. | | | |
| Plunger | Lewis Nixon | 0 | 3 |
| Adder | Lewis Nixon | 15 | 20 |
| Grampus | Union Iron Works | 0 | 2 |
| Moccasin | Lewis Nixon | 10 | 11 |
| Pike | Union Iron Works | 0 | 2 |
| Porpoise | Lewis Nixon | 9 | 10 |
| Shark | Lewis Nixon | 9 | 10 |

SHIP SUBSIDIES A BUSINESS QUESTION.

There is but one way to look at the proposed ship subsidy, and that is in the light of a purely business proposition. It is nothing else. We put up \$9,000,000 a year, considerably less than that in fact when the mail contracts are taken into consideration, and we aim at securing a goodly proportion of the \$200,000,000 a year which we are now paying foreign steamship companies. There is a vast difference between \$9,000,000 and \$200,000,000. If we put up our money we shall expect it to return to us many fold. As to the argument that only rich ship owners will be benefited that is false on its face. When we build ships we give employment to American workmen and American ship yards. When we sail these American ships we employ a large number of American seamen. When we pay freight rates to these American ships the money does not go abroad, but remains in this country. Ocean commerce is profitable, and it is worth while trying to get our share of it.—Philadelphia Inquirer.

PROTECTION FOR AMERICAN SHIPPING.

Ocean transportation is engaged largely and to an increasing extent in carrying American products and millions of American money go to pay the freight. Other nations subsidize steamship lines to the extent they find necessary to make them succeed, and to get into competition with them and independent of them we must pursue the same policy to the extent that we find necessary. Not only have we built up great industries by protection, but we hastened by a generation the construction of the transcontinental systems of transportation and their profitable results by means of land subsidies and government credit. Both policies have been amply vindicated. The ship subsidy carries the same principle in a new direction, where it applies with equal force and will be equally fruitful of results.—New York Mail and Express.

HIGH-GRADE RUBBER GOODS.

Messrs. Sayen & Schultz, proprietors of the Mechanical Rubber Works, Philadelphia, issue a very attractive 1901 calendar illustrating the legend of King Solomon and the iron worker. This firm manufactures high-grade rubber goods, such as air hose for pneumatic riveters and chippers, fire, steam and water hose. A specialty made by them is the celebrated Melville oxydized sheet gum packing for steam and hydraulic use, after the patent issued to Rear Admiral Geo. W. Melville, chief of the bureau of steam engineering, United States navy.

MR. KIRBY'S EXPERIENCE WITH THE RUSSIAN GOVERNMENT.

An interesting story regarding the experience of Frank E. Kirby, naval architect of Detroit, with the Russian government some time previous to the beginning of work on the famous Russian ice crusher Ermack, was published recently in the Detroit Free Press. The Free Press says:

"The Russian government had heard much of the success of the Ste. Marie, in service at the Straits of Mackinaw, and invited Frank E. Kirby, its designer, to make a bid on a craft of similar style, but much larger and more powerful. The first intention was to make her of wood, but investigation showed there was no suitable oak to be obtained within thousands of miles of the Lake Baikal port where she was to be put together, so steel was substituted. Mr. Kirby figured that many parts of the craft could be constructed at the Detroit plant and shipped to the Lake Baikal port, and the bulkier parts built in Russia and shipped there, the lake being inland. Having completed the plans, on which he put many months of his hard labor, Mr. Kirby shipped them over with his bid, it being the universal custom to accompany all bids to build vessels with the plans thereof. Finally Mr. Kirby was sent for, and went to St. Petersburg. In the presence of the Russian officials he encountered a representative of the great Armstrong ship building concern of England, perhaps the largest in the world, with a dock frontage as large as that of the city of Detroit. It soon became evident that all the astute Russians had been scheming for from the beginning was possession of the plans, for they began to hedge the contract about with provisions which made it practically prohibitive to the Detroit company. They demanded, among other things, that the American concern give bond of a Russian company or bank for the entire and faithful performance of its part of the contract, and that the boat must be completed on a certain date or the company pay an exorbitant penalty. This simply meant that the Detroit Dry Dock Co. would have to ship over a sum of money equal to the greater part of the price of the boat, and deposit it in a Russian bank as collateral for the bond. This exaction and the rigid nature of the Russian demands and penalties completely disgusted Mr. Kirby, and he refused absolutely to have anything more to do with it. This was exactly what the Russians and the Armstrong representative wanted. The big English concern had done a lot of work, giving Russian security, for that government, and immediately it accepted the terms and secured the contract, using the American's plans. The Russian government has for some years been successfully operating the big ice-crusher Ermack on the Baltic sea, but she was built on the general principle of the Kirby plans. While work on the Lake Baikal craft was begun first, owing to the lack of water connection with salt water, the work was so delayed that the Ermack, begun much later, was finished and in operation some time before her.

"With the Ermack has often been associated in magazine and newspaper articles in this country the name of the Russian admiral Makaroff, who is generally credited with being her designer and creator, with no thought of credit for the wonderful device to another. Makaroff was sent here by the Russian government at the beginning of negotiations, which were started through a sketch of the St. Ignace drawn by a Detroit and published in the London Graphic. Makaroff came to Detroit and had long talks with Mr. Kirby and General Manager McVittie of the Detroit Dry Dock Co., which built both the St. Ignace and Ste. Marie. From here he went to the Straits of Mackinaw and closely investigated the workings of the ice crushers and was particularly impressed with the bow screw and the peculiar style of the hulls. It was his favorable report on the plan that induced his government to decide to build. The fact that Kirby's plans were used is proof that the attempts of foreign designers to make suitable plans, on Makaroff's description, failed.

"A friend of Mr. Kirby's, who tells this story, says he saw Mr. Kirby just after he arrived back. The latter stated that life was made a burden for him all the time he was in Russia. The authorities took possession of all his mail and opened and read every letter before allowing him their possession. He was under as strict espionage as though he had been suspected of Nihilism, or of having designs on the life of the czar. After passing the border line of the country on his return home, he was so delighted at getting out of the place that he threw up his hat and yelled. The plans were worth from \$15,000 to \$20,000, from the standpoint of the ship building expert, but to the Russian government they were worth hundreds of thousands of dollars. Yet the dishonest emissaries of the czar never offered him one cent for them; they simply confiscated them, for Mr. Kirby concluded that, although according to American law they were his property, there was little use in sending in a bill, as the payment would be refused, and a suit in a Russian court by an American against the Russian government could have but one result. So the magnificent Baikal ice crusher, the achievements of which are being written and talked about all over the civilized world, is the product of a barefaced robbery of the brain work of one defenseless Detroit man by the powerful Russian government."

AROUND THE GREAT LAKES.

Mr. M. R. Davis, one of the Davis Dry Dock Co., Kingston, Ont., was lately appointed government inspector of steamboat hulls.

The total amount of both hard and soft coal on hand at Milwaukee on Jan. 1, 1901, was 603,085 tons, against a total of 618,319 tons on Jan. 1, 1900, or but 15,234 tons less this January as compared with the corresponding date a year ago.

Capt. Daniel Miesel died Thursday at his home, No. 288 Morrell street, Detroit, aged about eighty years. He had sailed the lakes all his life, filling the position of captain for about forty years. He was widely known among vesselmen and as a citizen of Detroit.

A libel for \$10,000 for personal injuries, alleged to have been sustained by Charles F. Copps, a stevedore, has been filed at Chicago against the steamer Joseph L. Hurd. A bond has been filed on behalf of the steamer, and her owner, the Leathem & Smith Towing & Wrecking Co., is being represented by Attorneys M. C. Krause of Milwaukee and R. G. MacDonald of Chicago.

Officers of Toledo lodge, No. 9, Ship Masters' Association, for ensuing year are: President, James McKinley; first vice-president, Geo. W. Burtis; second vice-president, Geo. H. Burnham; secretary and treasurer, E. G. Ashley; chaplain, James Skeldon; marshal, Frank D. Lamb; war-

den, Wm. Harlow; sentinel, D. R. Lynn; delegate to grand lodge, T. C. Herrick; alternate to grand lodge, E. Doville.

Officers of Chicago lodge, No. 3, Ship Masters' Association, for the coming year are: President, James O. Wood; first vice-president, W. D. Hamilton; second vice-president, D. A. Curran; treasurer, Wm. W. Shaw; secretary, F. B. Higgin; chaplain, Samuel Thurston; marshal, Geo. McDonald; warden, W. K. Moore; sentinel, Peter McCulloch; delegate to grand lodge, Charles H. Hubbard.

Shipmasters of some of the lake cities have expressed in resolutions adopted by their association an opinion as to where additional gas buoys should be established in the St. Mary's river. This opinion is not altogether in accord with a recent report on the subject made by the light-house inspector of the eleventh district, which includes the river. The shipmasters recommend the establishment of buoys at Watson shoal, foot of Pipe island; at Dark Hole, opposite the red gas buoy now established there; at Stubbling point (turning point head of Little Mud lake) to take the place of Capt. Rollet's float-light; at head of the Dyke (turning point) to take the place of red stake now located there; opposite Point au Pins light-house; at Cedar point in lieu of black stake now stationed there; also two buoys at new channel cut, Sailors' Encampment, and two off Mission point, below Point Iroquois.

ARRIVALS AND DEPARTURES OF VESSELS AT BUFFALO.

According to the collector of customs the number of arrivals and departures of vessels in the district of Buffalo during the past season was as follows:

| VESSELS ENTERED. | | |
|--------------------------------|-----------------|----------------|
| | No. of vessels. | Gross tonnage. |
| Coastwise | 3,745 | 5,016,527 |
| American in foreign trade..... | 1,036 | 293,440 |
| Foreign in foreign trade..... | 164 | 31,161 |
| Total | 4,945 | 41,218 |

| VESSELS CLEARED. | | |
|---------------------------------|-----------------|----------------|
| | No. of vessels. | Gross tonnage. |
| Coastwise | 3,850 | 5,060,103 |
| American in foreign trade | 1,038 | 282,207 |
| Foreign in foreign trade..... | 5,028 | 17,784 |
| Total | 5,028 | 5,360,094 |

TOTALS FOR FORTY YEARS.

| | | Gross No. of vessels. tonnage. | | | Gross No. of vessels. tonnage. |
|------------|--------|-----------------------------------|------------|--------|-----------------------------------|
| 1900 | 9,973 | 10,701,222 | 1880 | 10,308 | 5,935,746 |
| 1899 | 10,417 | 10,480,515 | 1879 | 8,446 | 4,442,797 |
| 1898 | 11,263 | 12,264,717 | 1878 | 8,743 | 4,663,638 |
| 1897 | 11,563 | 11,581,858 | 1877 | 6,848 | 3,513,363 |
| 1896 | 11,322 | 11,304,742 | 1876 | 4,624 | 2,727,896 |
| 1895 | 9,914 | 9,462,423 | 1875 | 6,277 | 3,259,839 |
| 1894 | 9,664 | 8,789,902 | 1874 | 7,477 | 3,641,839 |
| 1893 | 10,653 | 9,494,559 | 1873 | 9,959 | 4,886,733 |
| 1892 | 11,489 | 9,560,922 | 1872 | 10,393 | 3,688,058 |
| 1891 | 10,879 | 8,928,763 | 1871 | 10,894 | 4,862,644 |
| 1890 | 9,762 | 7,556,415 | 1870 | 10,625 | 4,157,793 |
| 1889 | 9,018 | 6,900,798 | 1869 | 10,221 | 4,007,196 |
| 1888 | 8,647 | 6,026,814 | 1868 | 11,812 | 4,256,830 |
| 1887 | 9,950 | 5,302,650 | 1867 | 12,826 | 5,806,960 |
| 1886 | 7,772 | 4,753,467 | 1866 | 13,782 | 6,951,959 |
| 1885 | 6,928 | 4,795,710 | 1865 | 13,746 | 5,032,593 |
| 1884 | 7,539 | 4,386,575 | 1864 | 14,205 | 6,891,348 |
| 1883 | 7,674 | 4,405,543 | 1863 | 15,376 | 6,757,904 |
| 1882 | 7,333 | 4,405,003 | 1862 | 16,890 | 6,689,194 |
| 1881 | 6,745 | 4,535,223 | 1861 | 13,866 | 5,963,866 |

SPECIAL OFFER IN CORRESPONDENCE INSTRUCTION.

Ambitious men, who desire to obtain better positions and higher wages, should investigate the free scholarship offer made in another column by the American School of Correspondence, Boston, Mass. Situated in a large city, which is a recognized educational and industrial center, this well known correspondence school has many natural advantages in teaching the theory of the trades and engineering professions. Without leaving home or losing time from work, the student pursues a thorough course of study under the direction of able instructors, who are always ready and willing to assist him. Instruction papers, prepared especially for teaching by mail, are furnished free. These papers, written in clear and concise language, as free as possible from technicalities, are superior to ordinary text-books on the subjects of which they treat. In addition, special information regarding any difficulties in their studies is furnished students without extra charge. It should be the ambition of every man to advance in his trade or profession. A mechanic with practical experience, supplemented by theoretical education, can command a better position than a man without such an education. The result of long experience in teaching by mail shows that no other method so fully meets the requirements of men who have but little time for study.

ORDERS FOR PUNCHES, SHEARS, ETC.

The Cleveland Punch & Shear Works Co. reports that they are receiving a great many inquiries for their machines, and some of them have developed into orders within the past few days. Among the latter is an order for a 50-in. rotary planer from the Carnegie Steel Co. of Pittsburg. The Cleveland company has shipped within the past few days the following tools: One special "I" beam punch, one 16-ft. radial drill, and one bending and straightening machine to McMath & Colburn, Walkerville, Ont.; double 48-in. throat punch to the Eastern Ship Building Co., New London, Conn.; 50-in. rotary planer to the Rochester Bridge & Iron Works, Rochester, N. Y.; 12-ft. arm radial drill to the Buffalo Dry Dock Co., Buffalo, N. Y.; double 30-in. throat punch to the Anaconda Copper Mining Co., Anaconda, Mont.; 36-in. throat punch to the Craig Ship Building Co., Toledo, O., and several other punches and shears to various parties.

COMBINED PUNCHING AND SHEARING MACHINERY.

A new line of combined punching and shearing machinery, the scope of which is indicated by the illustration on this page, was recently brought out by the New Doty Mfg Co., of Janesville, Wis. The machines cover a wide range of work, and are of a heavy and substantial design, self-contained, well proportioned and amply strong for their specified duty. It is the work of but a few moments to change the shear to a punch or punch to a shear, and in this way have a double punch or a double shear. Eccentric shafts are of best hammered wrought iron, or steel if preferred. Sliding heads are counterbalanced, and on heavy machines the weight is connected through a heavy spiral spring, which takes the shock of the punching and prevents the breakage of counterbalance parts.

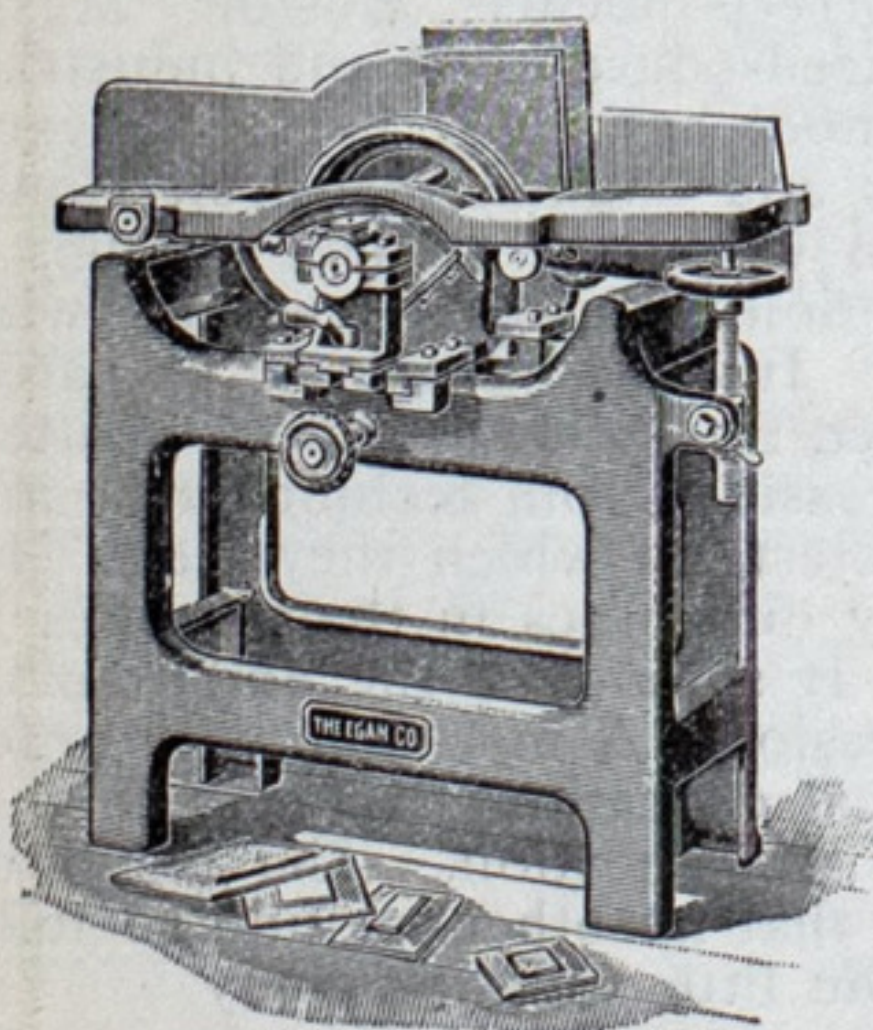
When the different tools are supplied, they are readily removed from the machines and others substituted, without damage either to the machine or its parts. An adjustable automatic stop brings the sliding head to rest at any desired point of the stroke and is, therefore, a valuable help in punching and shearing accurately. It can be attached to any machine. Radial cranes can be attached to the machines, and are found very convenient in handling certain classes of work. Engines or electric motors can be attached for independent power. Engines are extra heavy and especially designed for this work. Shear knives and blocks for cutting angle iron, plate iron, flat or round bars can be attached to all machines.

The manufacturers supply punches and dies for cutting out man-holes, hand-holes, and flue-holes of all sizes; also holders and blocks for attaching them. Special punches and dies are designed and furnished on application at reasonable prices. An extension die-seat and punch-holder brings the center of the die out to the front of the machine so that flanges and angles can be punched, and is found very convenient for punching rivet and staybolt holes in the center of wide plates.

"We are prepared" the manufacturers say, "to furnish all sizes, and the different depths of throat, and can combine a short throat for the shear and a long throat for the punch, or vice versa, as the case may be. All capacities are identical with the single machines of the same size and depth of throat. The different punching and shearing attachments are interchangeable with the single machine of same size. For heavy duty, that is punching up to the capacity of machine, the punch is to be used in the center of sliding head. The re-enforcing bolts must be put in when cutting bar iron up to the limit of capacity of the machine. We furnish with each machine one set of punching and shearing tools; all others extra."

HAND-FEED PANEL RAISER.

The J. A. Fay & Egan Co., of Nos. 325 to 345 West Front street, Cincinnati, O., have just brought out a machine, known as their No. 1 hand-feed panel raiser, for which many advantages are claimed. A few points favorable to the machine are:



It will do smooth work on cross-grained or knotty stock, soft or hard wood. It will raise panels up to 3 in. on one or both sides at the same time. It is simple in operation, does not require a skilled operator, and is not liable to get out of order.

The frame is substantial, all parts working true, and the operator can get close to the cutter heads when passing the work over the table. All adjustments are made very rapidly, and the fences are always in proper position relative to the cutter heads.

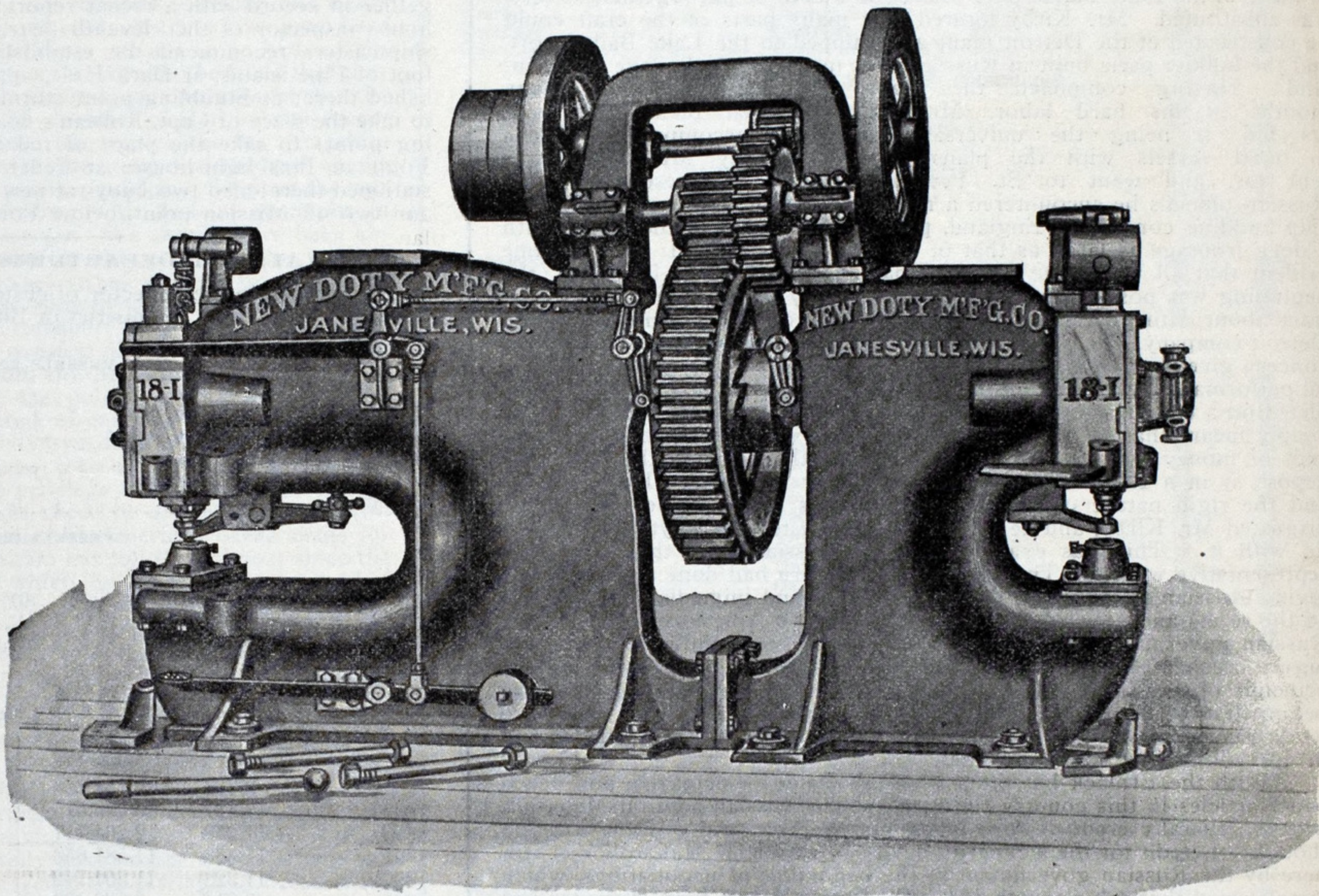
The manufacturers of this hand-feed panel raiser are very large makers of all kinds of wood-working machinery. They will of course submit further particulars and prices upon application.

Matthew Addy & Co., sales agents of the Tennessee Coal, Iron & Railroad Co., have issued a beautiful book bound in cloth, devoted to a description of the plants and mines of the great southern company. It has rarely been the pleasure of the Review to inspect so beautiful a work. There is no note of praise—it is merely a recital of the possessions of the big company. Several of the half-tones are vignettes and are as delicate as wash drawings. Its history is tersely and modestly set forth from its inception to its present imposing dimensions.

Capt. Wm. McGregor of Milwaukee, who sailed the steamer M. H. Boyce, has been appointed general superintendent of the Grand Trunk car ferry system in Detroit.

MEETING OF BUFFALO FORGE CO.'S REPRESENTATIVES.

In order to secure the many advantages of personal acquaintance and free exchange of ideas among its various representatives, the Buffalo Forge Co. during the first week of the New Century called together its entire staff of traveling men and other officials. During the gathering at Buffalo they were most hospitably entertained by the firm and carried away with them the remembrance of many pleasures which the meeting presented. The occasion was afforded of a better acquaintance and closer contact between the various officials of the company, traveling representatives and the heads of departments as well, some of whom never met before. Meetings of this kind tend towards harmony among the



MADE BY NEW DOTY MFG. CO., JANESVILLE, WIS.

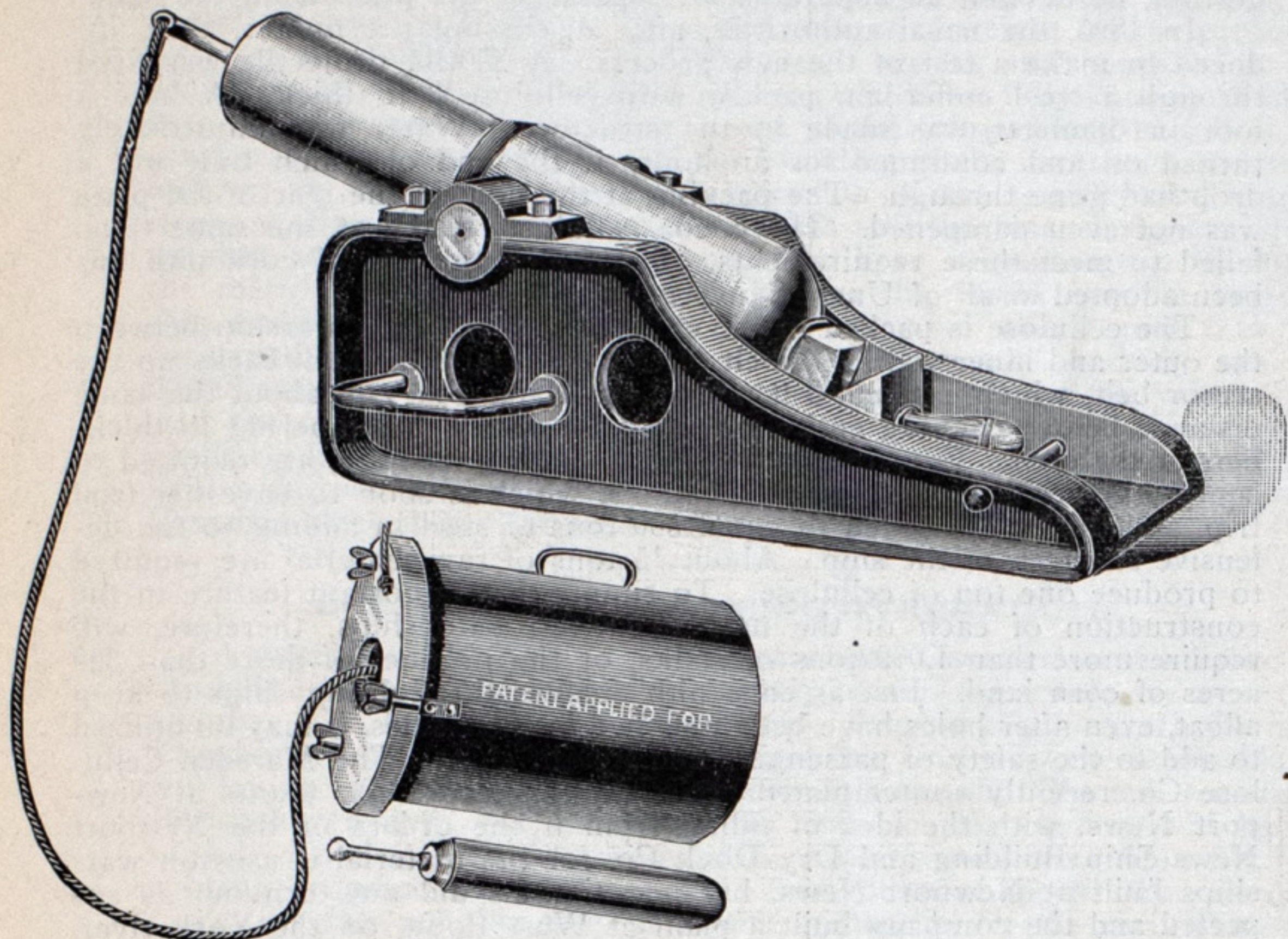
different officials and considerable advantage was undoubtedly derived also from the general discussion of engineering and commercial problems encountered in the field of heating, ventilating and drying, mechanical draft, forge installation, and similar lines in which the Buffalo company is engaged. The opportunity presented for the presentation of individual ideas upon the subject of procuring customers and following up business, as well as upon the best methods to be employed in different cases was likewise taken advantage of to the benefit of all present. Mr. D. W. Roper, who for the past year has been traveling in England and Europe in the interest of the company, returned to this country in season to attend the meeting at Buffalo and was able to impart much that was of interest and value concerning trade conditions and the outlook across the Atlantic.

The entertainment provided by the firm was hospitable in the extreme. One evening the party occupied four boxes at a leading Buffalo theater. On the following evening a banquet at the Iroquois hotel was tendered the representatives, covers being laid for thirty. Mr. H. W. Kreinheder of Buffalo, who was instrumental with valuable aid and suggestions in the founding of the Buffalo Forge Co., was the guest of honor and officiated as toast master, while on his right and left were seated Messrs. William F. Wendt and Henry W. Wendt, senior and junior members of the firm. The phenomenal growth of the company as brought out by the contrast between past and present conditions, as well as its present prosperity and bright prospects, were the main themes of discussion at the banquet. The company had its beginning in a small office in Buffalo about a quarter of a century ago, the work being done in an outside shop. After one change, the shop and office were located in a small two-story frame building at the corner of Broadway and Mortimer streets, and since that time the company has expanded without a check until the shops now occupy the entire block bounded by Broadway, Mortimer, Chaplain and Tousey streets. So rapid has been the growth that the original frame building had to be removed to make room for improvements, and even now, with the recent completion of a large six-story shop, the company is hampered for lack of space. Such were a few of the topics touched upon at the banquet. The gathering as a whole was a great success in every respect.

Announcement was made last week that the capitalists represented by F. H. Clergue of Sault Ste. Marie, Ont., have decided to establish two new steamship routes on the upper lakes in the spring, in order to attract tourists from points on Lake Erie, Lake Huron and Georgian Bay to the picturesque shores and islands of Lake Superior and to romantic spots in the interior which the construction of the Algoma Central railway northward will open up. Of the two routes one will be from Midland on Georgian bay via Parry Sound and Little Current to the Sault. The other will start from some Lake Erie port and on its way to the Sault will touch at Detroit, Port Huron and Canadian shore ports. It is represented that F. H. Clergue is now in Europe negotiating for the purchase of five Clyde steamers to put on the route.

LINE-THROWING, LIFE-SAVING GUN.

The Lyle line-throwing life-saving gun is not a new device, as it has been on the market for a long time past, but it is interesting just the same and unlike many other so-called life-saving devices it has the approval of the board of supervising inspectors of steam vessels. It is intended for use on steamships, barges and tow boats for throwing a line from one vessel to another, or for communicating with the shore in case of shipwreck. These guns are on vessels of the Cunard line, Boston and New York fleet, Warren line, Leyland line, Boston Fruiters, Yarmouth of Nova



Scotia, Pacific Mail, Atlantic Transport line, Clyde, New Orleans & Balize, Baltimore Storage & Lighterage, Savannah, Philadelphia & Reading Terminal, International Steamship Co., Union Pacific railroad, Pacific Coast line of San Francisco and others; also on the yacht Comanche, built on the great lakes, on yachts of the Atlantic seaboard, on pilot boats, etc. This gun is up to government requirements in all respects. It is made by Wm. Read & Sons, 107 Washington street, Boston. The law now in force compels all ocean steam vessels carrying passengers "to be provided with a line carrying projectile and means of propelling" such as may have received the formal approval of board of supervising inspectors.

The carriage on which this gun is mounted is of iron and of sufficient weight to do away with the danger from recoil in firing the gun on a vessel's deck, which danger is very great if the gun is mounted on a light wooden carriage. The patent reel case ensures the safe uncoiling of the line without danger of kinking and becoming entangled, or of parting at the time of the discharge; without this there is risk of the line becoming jammed and parting, thus causing the gun to be totally ineffective at the time of danger when it is needed. The manufacturers furnish a rewinding apparatus with which a common sailor can rewind the line and use it again and again.

AMERICAN BRIDGE CO. APPOINTMENTS.

The American Bridge Co. announces the following appointments: E. W. Stearns has been appointed manager of the East Berlin (Ct.), plant; Frank S. Moore has been appointed manager of the Lafayette (Ind.), plant; all the Pittsburg plants have been consolidated into one, and J. W. Walker appointed as manager; Mr. C. A. Billings having been appointed assistant treasurer for the New York district, H. W. Post has been appointed as manager of the Post & McCord plant.

The company has grouped all the eastern plants in one section, and has appointed Mr. A. J. Major, formerly manager of the bridge and construction department of the A. & P. Roberts Co., as manager of all of the plants, including the Pencoyd, the East Berlin, the Buffalo, the Edge Moor, the Elmira, the Groton, the Hilton, the Horseheads, the Trenton, the Post & McCord, the Rochester and the Union. The New York contracting office will hereafter be in charge of S. Fischer Miller, formerly with Messrs. Milliken Bros.

The American company will furnish the steel work for the ten-story office building to be built by the Mutual Savings Bank at the corner of Market and Geary streets, San Francisco, Cal.

ATLANTIC TRANSPORT CO.'S PLANS.

President Bernard N. Baker of the Atlantic Transport line announces that the rumor that the line was to be absorbed by the International Navigation Co. doubtless was caused by the line's effort at reorganization. Nearly all of the line's capital is invested in big modern ships, including the colossal Minnehaha and Minneapolis, twin screws, on the London route, worth \$2,000,000 each. More than 80 per cent. of the line's stockholders are Americans, and they want to have these ships running under the stars and stripes. If the ship subsidy bill was passed, Mr. Baker said, the line would duplicate every British built vessel in its big fleet by another ship built in America. This will be necessary to get American registry for the line's British bottoms. The line is building two 10,000-ton steamships in a Baltimore ship yard. Mr. Baker says that these ships will be put in foreign service if the ship subsidy bill passes, and if it does not they will ply in the coastwise trade.

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CANTON, OHIO.

CHICAGO, ILL.

CLEVELAND, O.

COLUMBUS, OHIO.

DENVER, COLO.

DULUTH, MINN.

EAST BERLIN, CONN.

ELMIRA, N. Y.

GROTON, N. Y.

HORSEHEADS, N. Y.

LAFAYETTE, IND.

LONDON, ENG.

MILWAUKEE, WIS.

MINNEAPOLIS, MINN.

NEW ORLEANS, LA.

PENCYD, PA.

PHILADELPHIA, PA.

PITTSBURG, PA.

ROCHESTER, N. Y.

SALT LAKE CITY, UTAH.

SAN FRANCISCO, CAL.

SEATTLE, WASH.

SIDNEY, N. S. W.

TRENTON, N. J.

WILMINGTON, DEL.

YOUNGSTOWN, O.

USE OF CELLULOSE ON WARSHIPS.

The cellulose cofferdam belt, as protection to stability, is now a permanent fixture in American warship construction. Every battleship built in the past five years carries a 3-ft. belt of corn pith cellulose, packed to a density of about 8 lbs. to the cubic ft. and worked along both sides, above the protective deck, for the entire length of a ship. The peerless battleships Kearsarge and Kentucky, which were recently turned over to the government by the Newport News Ship Building & Dry Dock Co., were supplied with the protective belt of corn pith, and so are all the battleships now building.

The six new armored cruisers and five new battleships, for which the awards have just been made, will be supplied with belts of this specially prepared cellulose, 3 ft. wide. In the plans for these ships, and also for the three new protective cruisers for which bids will be opened Feb. 1, provision was made for the corn pith belt and unless some invention or discovery of the future better serves the same purpose this waste farm product will be utilized, probably, forever. Curiously enough, the material for this improvement in the construction of warships of the heavier class comes, not from the seaboard products, but from the waste of western farms. Its value lies in the fact that it will prevent a vessel's fighting ability from being destroyed even after she has been pierced in a dozen places. The value of some light substance to preserve the stability of armored vessels by displacing water that might enter a projectile had been appreciated by the constructors of the navy ever since Uncle Sam commenced to build steel armored ships. The French, to meet this requirement, originated the use of cellulose, which, when fired into and pierced, swells up under the influence of the water with which it comes in contact and makes further inflow impossible. It was adopted in the American navy after several trials, but the cellulose we use today in our ships is not manufactured from the same material which the French used. Our cruisers were the first to be supplied with the simple cellulose belt. The Columbia, New York and Olympia have protective decks of ample strength to keep out the shells of vessels they are liable to engage, while their stability is further protected by belts of the cellulose along the edges. Of course, improvements are being made all the time and the cellulose belts in the new battleships and cruisers will represent the very latest American ideas in the development of this important feature of warship construction.


No thoroughly satisfactory cellulose material for this purpose was discovered, however, until the pith of cornstalks was utilized in its manufacture. The only perfect obturator, found, thus far, is corn pith. It will absolutely prevent the inflow of water through an opening made by an 8-in. shell. It is thoroughly fire-proof, when chemically treated, and meets the requirements of the situation in every way. Maize, or Indian corn, is exclusively an American product, this giving us an advantage over all nations. In the western fields, this country has the best material in the world for imparting this sort of strength to warships. For keeping out water a cellulose belt of three feet, the uniform width in our navy, may be said to be as efficient as a 6-in. belt of steel, so that the stability

of our warships can be protected, when there is back of it a good protective deck to save the vitals 100 tons of corn pith of cellulose where 1,000 tons of steel would be required. In vessels of high speed, where weight is needed for machinery and the armor belt cannot be carried, cellulose is used to preserve the stability. In battleships thick armor is used amidships and a protective deck and cellulose belt beyond the limits of this armor.

The use of corn pith for this purpose was first suggested by Prof. Mark W. Marsden, who had observed its remarkable absorbent qualities. He brought the matter to the attention of the Cramps, and at their suggestion, he devised an apparatus for separating the pitch from the stalk.


In 1895, the naval authorities, after discussing the matter, were induced to make a test of the new process. A 250-lb. projectile was fired through a steel cofferdam packed with cellulose 3 ft. thick. A hole a foot in diameter was made in the structure. Water was immediately turned on and continued for an hour, at the end of which time not a drop had gone through. The packing at the hole in the rear of the plate was not even dampened. The cocoa cellulose, tested at the same time, failed to meet these requirements. Since then the use of corn pith has been adopted in all of Uncle Sam's naval construction.

The cellulose is packed in the cofferdam space on a warship between the outer and inner walls. A belt of this material 3 ft. thick backs up the armor belt, which extends 6 ft. above the water line and about the same distance below, running entirely around the vessel, but tapering in thickness at the ends. Fifty tons of cellulose, in its final state, are required to equip a vessel like the battleship Illinois, which is soon to have her trial trip, and this is computed to equal 500 tons of steel in adding to the defensive strength of the ship. About 15 tons of raw material are required to produce one ton of cellulose. To supply this important feature in the construction of each of the new 15,000-ton battleships, therefore, will require more than 1,000 tons of stalks, or the product of more than 300 acres of corn land. Just as corn pith enables the fighting ships to keep afloat, even after holes have been punched in their sides, it may be utilized to add to the safety of passengers and freight ships. The Marsden Cellulose Co. recently contemplated establishing one of their plants at Newport News, with the idea of filling from it the orders of the Newport News Ship Building and Dry Dock Co. for the material it uses on warships built at Newport News, but negotiations did not turn out as expected and the company built a plant at West Point, on the York river.



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Latest Improvements 1896

Number of Marine Leagues made each year by Steamships of the Messageries Maritimes Co., Provided with Belleville Generators—Since their Adoption in the Service.

| Year. | Australian | Polynesian | Armand Behic | Ville de la Ciotat | Ernest Simons | Chili | Cordillere | Laos | Indus | Tonkin | Annam |
|-------------------|----------------|----------------|----------------|--------------------|----------------|---------------|---------------|---------------|---------------|---------------|--------------|
| 1890..... | 22,576 | 820 | | | | | | | | | |
| 1891..... | 22,749 | 22,777 | 68 | | | | | | | | |
| 1892..... | 22,749 | 22,801 | 23,274 | 7,753 | | | | | | | |
| 1893..... | 22,793 | 22,781 | 22,762 | 22,749 | | | | | | | |
| 1894..... | 22,813 | 22,789 | 22,858 | 22,813 | 12,567 | | | | | | |
| 1895..... | 22,891 | 22,922 | 22,913 | 22,936 | 13,629 | 9,571 | | | | | |
| 1896..... | 23,178 | 30,906 | 23,232 | 23,183 | 20,735 | 21,051 | 13,572 | | | | |
| 1897..... | 22,750 | 23,202 | 30,912 | 23,185 | 20,745 | 25,370 | 21,119 | 14,382 | | | |
| 1898..... | 23,646 | 23,178 | 23,184 | 23,199 | 20,842 | 21,080 | 21,080 | 20,851 | 21,318 | 7,569 | |
| 1899..... | 23,178 | 23,205 | 22,477 | 30,135 | 20,082 | 20,926 | 20,956 | 17,448 | 18,285 | 14,669 | 7,628 |
| Total..... | 229,323 | 215,381 | 191,680 | 175,953 | 108,600 | 97,998 | 76,727 | 52,681 | 39,603 | 22,238 | 7,628 |

ATELIERS ET CHANTIERS DE L'ERMITAGE, À ST. DENIS (SEINE), FRANCE.
WORKS AND YARDS OF L'ERMITAGE, ST. DENIS (SEINE), FRANCE.

TELEGRAPHIC ADDRESS: BELLEVILLE, SAINT DENIS, SUR SEINE.

STEEL SHIP BUILDING IN CANADA.

Among the avenues for enterprise which have been suggested by the recent awakening in iron and steel making in the maritime provinces of the dominion, the building of steel ships is not least in importance. For several years a few Canadians of foresight have steadily kept in view the advantages possessed by Nova Scotia for this industry. And while the occasional newspaper references of late to projected organizations for steel ship building at Sydney had no definite steps to announce, it is at last known that Mr. B. F. Pearson and some of his coadjutors are engaged in estimates and correspondence having for their object the founding of a steel ship yard at Halifax. There are reasons of weight for the probable selection of Halifax instead of Sydney as a site for such works; but the projectors have not yet thought it wise to make these fully known. Suffice it to say that steel ship building is one of the things likely to follow, in good season, as a consequence of the founding of the great iron and steel industry in Cape Breton and the extension of the foundry and engine works at New Glasgow. Nova Scotia has still the men, designers, shipwrights, sail makers, fitters, riggers, who have in years gone by made the maritime provinces of Canada known the world over in wooden ship building. She has abundance of the timber which goes into the construction of steel ships as well as those of wood. And she has the skilled mariners and commanders to navigate, as well as the shippers to load, the argosies which may again make the havens of our Atlantic coast familiarly known over seas. So all in good time we may expect to see the British flag with the Canadian shield flying at the main of many a good Canadian steel ship.—Monetary Times, Toronto.

OCEAN LINERS ARE BEING OVERHAULED.

A number of the New York fast passenger liners are scheduled to be carefully inspected and treated in one way or another within the next two months. The Kaiser Wilhelm der Grosse, flagship of the North German Lloyd line, which had her pinions clipped this season by the Deutschland, will lay up for an overhaul in the Weser this month. She will remain at Bremerhaven until Feb. 19, when her trips to this country will be resumed. No changes will be made in the Kaiser's machinery while her hull is being groomed and prepared for a fresh burst of speed. The German Lloyd officials say that they are quite content to let the rival Deutschland hold the palm until the new Kronprinz, with her 33,000 H.P., comes out in 1902 to attack the records of the Hamburg-American liner. Gustav H. Schwab, the North German Lloyd American agent, says that the keel of the Kaiser Wilhelm II., which is to be over 700 ft. long, and faster than even the Kronprinz Wilhelm, is about to be laid at Stettin, in Germany. The general impression was that nothing would be done to con-

struct the Kaiser Wilhelm II. until the Kronprinz Wilhelm was launched. An official of the Hamburg line says that as the German Lloyd were determined to seek an average of 24 knots per hour for the trip between the channel and the Hook, arrangements are now being made in Hamburg to build a Hamburg liner that will eclipse anything that the German Lloyd turns out. The Deutschland will enjoy a four months' rest in Germany, and her builders will go over her during that time and make changes that will increase her speed, it is said. This ship was the first of the big ones to lay up for the winter, going out of commission in the Elbe during Christmas week. She will not start for this country again until April 4.

NO MORE SUBMARINES AT PRESENT.

In forwarding to Chairman Foss of the house committee on naval affairs the report of the board of construction advising against the construction at this time of any more submarine torpedo boats, Secretary Long says:

"The question with the department is not so much the desirability of submarine boats. This may be regarded as largely settled by the fact that one is now in commission and has given promise of great possible efficiency, and that seven more have been authorized by act of congress and are now in process of construction, although like many other new inventions, they cannot be said to have entirely passed the experimental stage in respect to actual service. The question with the department is rather whether the construction of an additional number should be authorized until those now under construction are finished and their usefulness further assured. On this ground, there being no pressing exigency for more, and especially in view of the large naval expenditures in hand and estimated for, the department does not regard further expenditure in this direction essential at this time."

In a recent letter to the New York Herald Mr. Charles H. Cramp, the well known ship builder, commenting on the necessity of forced draft in marine practice, points out that "the maximum steam generating capacity of the Scotch boiler cannot be attained without forced draft equal to 2 in. of water in the tube with closed fire room or ashpit, or induced draft equivalent to it. The difference between natural draft and forced draft in a Scotch boiler is usually equal to 25 or 30 per cent. of the normal. Therefore if it is contemplated to attain with natural draft a performance equal to that of forced draft with Scotch boilers, the weights must be increased in ratio of the difference. This would be out of the question in any type of warship now worth consideration. Indeed, the time is near at hand when the same rule will be recognized as applying with equal force to the higher classes of passenger vessels."

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(Only Gold Medals in this Class.)

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" Beading
" Stone Cutting, etc.

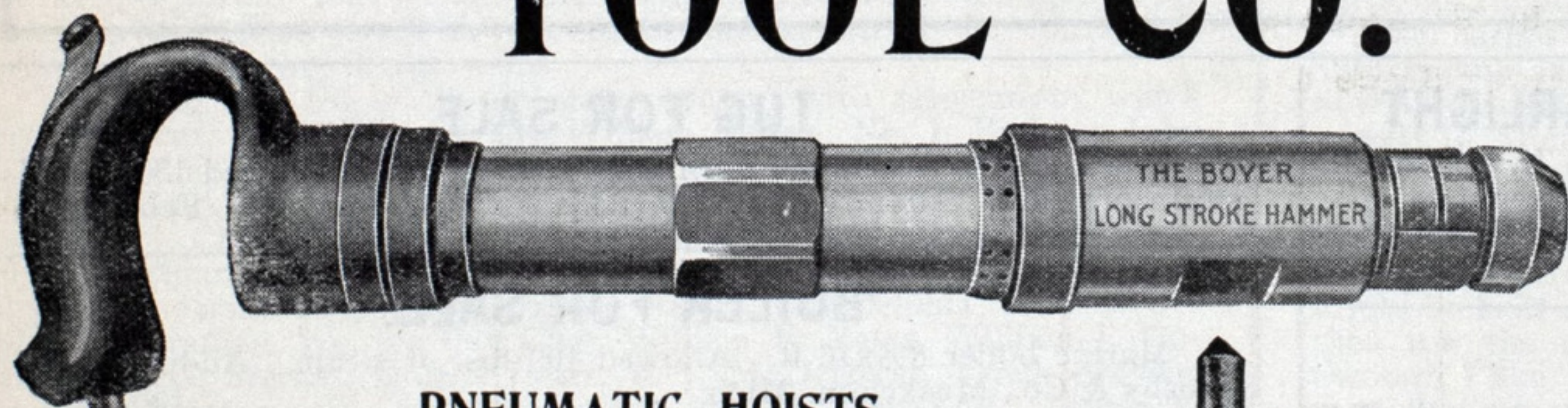
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" Bridge work
" Structural work

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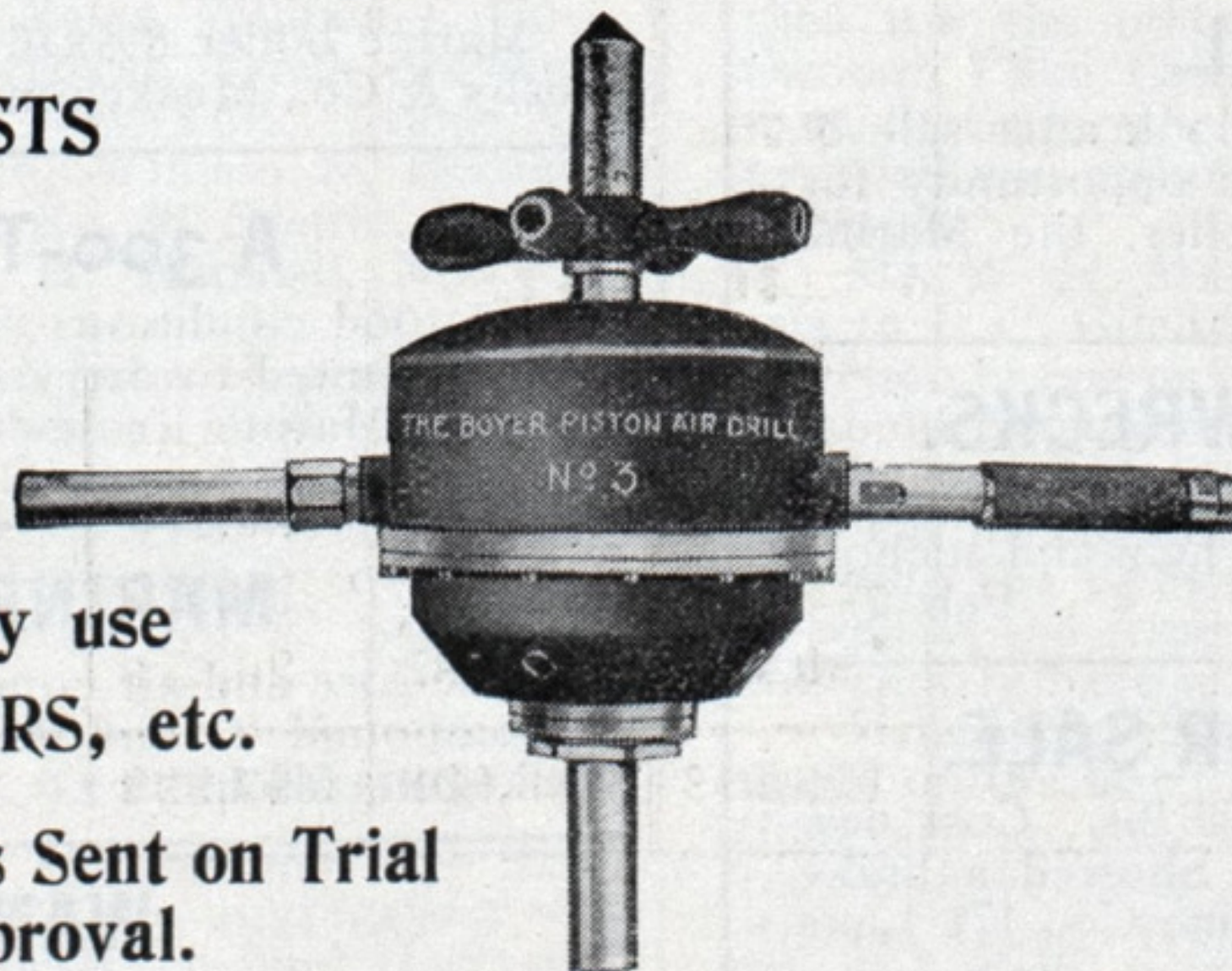
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TO THE
PARIS EXPOSITION OF 1900
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PARIS OFFICES,
August 21, 1900.

Chicago Pneumatic Tool Company,
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Gentlemen:

Officially I desire to inform you that your pneumatic tools received at the hands of the International Jury of Award, a Gold medal. Also that Mr. Boyer was awarded a Gold Medal as collaborator and inventor of the tools.

Yours very truly,

F. E. Drake
Director of Machinery & Electricity.

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Austria; Stockholm, Sweden. H. GLAENZER & PERREAUD, 1 Avenue De La Republique, Paris, France and Spain. H. W. PEABODY & Co., Sydney,
New South Wales.

NAVAL APPROPRIATION BILL.

A Washington dispatch announces that the house naval committee has completed consideration of the naval appropriation bill. No authorization of additional vessels of the Holland submarine class will be recommended by the committee at this time. The total amount carried by the bill is \$77,000,000, an increase of \$11,000,000 over that for the present year. Two battleships and two cruisers are to be contracted for under the head of increase of the navy. The sum of \$21,000,000 is allowed under the head of increase of the navy, as against \$12,000,000 for the current year. This amount is for the continuation of work on vessels, etc., already contracted for, no appropriation being made for the ships authorized by the bill. For continuing the improvements at the naval academy the committee allowed \$3,000,000. An increase of 5,000 men in the enlisted strength of the navy is provided for, bringing it up to 22,500 men. Provision is also made for the commission as ensigns of the two classes of naval cadets now at sea and the class which finishes its four years' course at the naval academy in June. This will add immediately about 150 men to the commissioned force of the navy. For armor plate the committee allowed the amount required during the year by the department to carry out the terms of the contract recently made by the secretary of the navy from the armor furnishing companies. Appropriations approximating \$400,000 were made for the new coaling station at Algiers, La., to pay for the necessary land, equipments, buildings, etc.

The submarine torpedo boat Holland is being prepared at Norfolk preparatory to her trip to Pensacola, where she will join the North Atlantic squadron. The distance from Annapolis to Norfolk is 160 miles—the longest trip yet undertaken by the Holland. Down Chesapeake bay an average speed of 5½ knots an hour was recorded on the surface and 8 knots was accomplished on a spurt. An armature bar on the electric engine broke, but the Holland was not disabled, as she was at the time using her gasoline engine.

Officers of the Milwaukee lodge, Ship Masters' Association of the Great Lakes for ensuing year, are: President, Fred Schwerman; first vice-president, John Tower; second vice-president, Frank Van Patten; treasurer, T. C. Starke; financial and recording secretary, John McSweeney; delegate to grand lodge and to Washington, Daniel C. Sullivan.

The Nickel Plate road will send its 1901 Pan-American exposition calendar to anyone sending their address to the general passenger agent at Cleveland, O.
2, Jan. 31.

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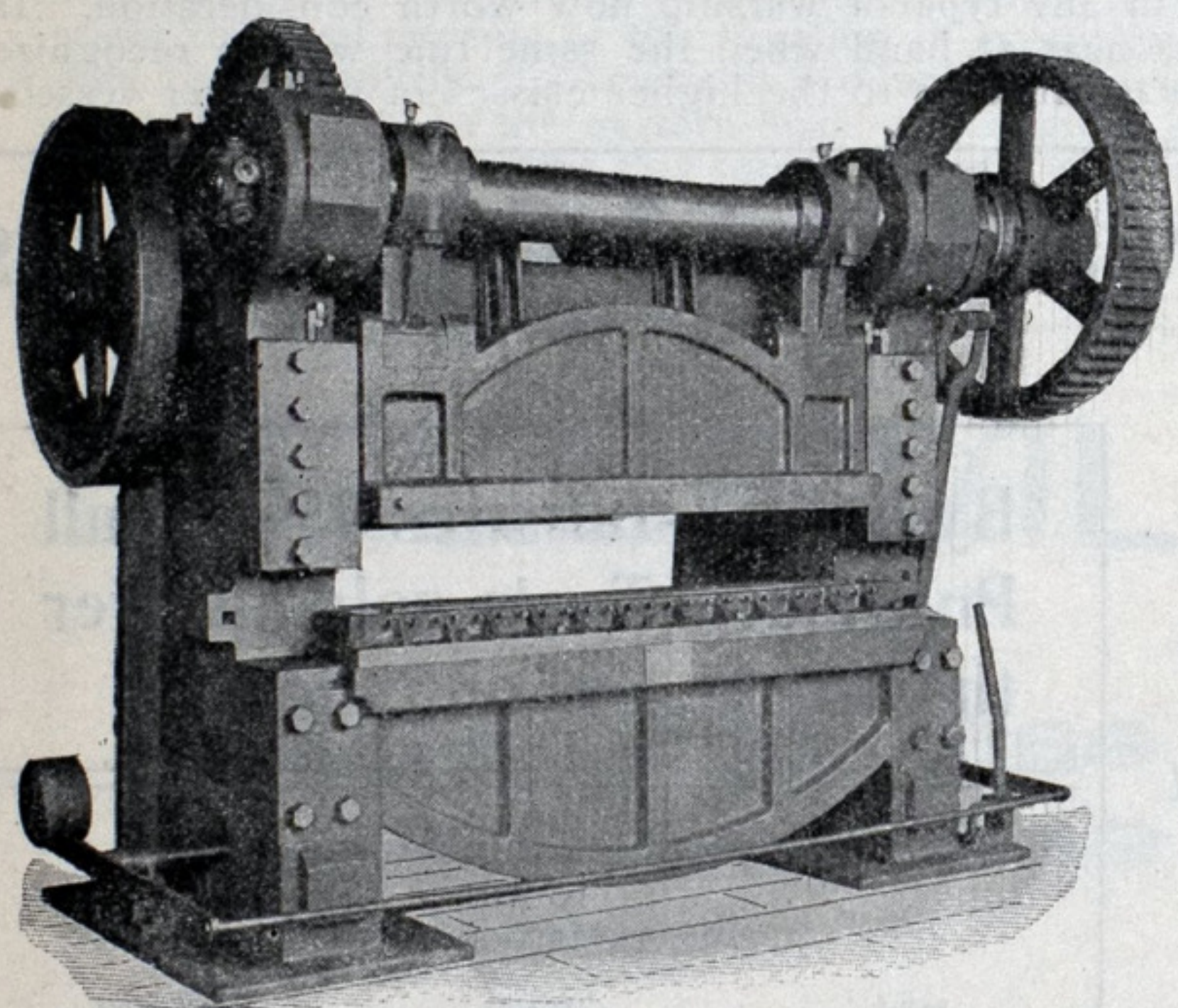
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Feb. 7.

PATENT PROPELLER WHEEL.

Wanted, man to establish office in New York and look after sale of wheels. Already in use on hundreds of vessels. Rare opportunity for the right man. Address Manufacturers Patent Propeller, the Marine Review Pub. Co., Perry-Payne Bldg., Cleveland.
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For Sale—Iron rudder from wrecked steamer St. Lawrence; steam windlass and capstan from wrecked steamer Tuttle; also chain and anchors from Tuttle. E. G. Crosby & Co., Muskegon, Mich.
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WOLVERINE GASOLINE ENGINE FOR SALE.

Two cylinders, upright and of 47 H.P.; weight 5,500 lbs. Cost new \$1,285. Used less than sixty days. In perfect order. Showed a brake test of 47 H.P. Spot cash price \$675. Backus Gas Engine Co., 171 Lake street, Chicago, Ill.
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To close an estate. Located in one of the large cities on the lakes. Long established, well equipped, doing good business, marine and general. Splendid chance for the right parties. Will sell plant or lease for a term of years. Address "Administrator," care Marine Review Pub. Co., Perry-Payne Bldg., Cleveland.
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Good Tug, six years old. Engines 18x20. Boiler allowed 130 pounds steam pressure. Address Box 284, Ashland, Wis.
Feb. 28.

BOILER FOR SALE.

Marine boiler 8½x16 ft. Allowed 109 lbs. of steam. Address E. G. Crosby & Co., Muskegon, Mich.
Jan. 24

A 300-TON VESSEL FOR SALE.

In good condition. Will sell cheap. Carries about 300 M. ft. pine lumber. Suited to carrying grain or any other first-class cargo. Address Box 475, Marine Review Pub. Co., Perry-Payne Bldg., Cleveland.
Jan. 17.

MARINE ENGINES FOR SALE.

One fore-and-aft compound 28 and 50x42 in. stroke. One fore-and-aft compound 27 and 50x40 in. stroke. Address E. G. Crosby & Co., Muskegon, Mich.
Jan. 24

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